Utility Expansion and Development Study

Route 44 Corridor

in

Canton, Connecticut

February 2018

Prepared for:

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1.0 INTRODUCTION

1.1 Project Description

This report has been prepared for the Town of Canton (the "Town") by BSC Group ("BSC") in order to provide the Town with an analysis and comparison of existing and proposed development potential of properties adjacent utility gaps in the Route 44 corridor portion of the Canton Water Pollution Control Authority (WPCA) sewershed (the "Site"). The purpose of this study is to, 1) determine whether gaps in utility service (natural gas, public water, and public sewer) along Route 44 are limiting development potential of the abutting properties, 2) determine the approximate cost associated with installation of new utilities to fill gaps in service, 3) determine the maximum potential and growth as a result of utility expansion, and 4) provide a summary of results and a recommendation to the Town based on existing and anticipated growth compared to upfront construction costs, borne by the Town, associated with expanding utility coverage.

1.2 Project Location

The Site consists of properties located in Canton, Connecticut, Hartford County along approximately 1.5 miles (7,700 feet) of Connecticut State Route 44. The limits of the study are properties on either side of Route 44 from the western limit of the Canton sewershed, (approximately 800 feet west of the intersection with Sterling Drive) to the eastern limit of the sewershed (approximately at the intersection with Secret Lake Road). (See Figure 1 - Site Location Map).

1.3 Base Mapping

Using the Town of Canton Geographic Information System (GIS) Interactive Mapping, which is publicly available from the Town of Canton Assessor's Office, all parcels directly abutting Route 44 within the study area were reviewed for acreage, assessed value, zone, utility service and environmental conditions topography, floodplains, wetlands and listed species). Base mapping was prepared showing each of these parcels using a combination of Canton GIS mapping, Connecticut Department of Transportation (CTDOT) 2004 Light Detection and Ranging (LIDAR) survey data, Canton Water Pollution Control mapping, and CTDOT 2012 Aerial Imagery. Properties within the Site have been color coded to distinguish development zones. Base mapping is a part of the plan set, which has been included as Figures 2 through 6.

2.0 EXECUTIVE SUMMARY

BSC performed a Utility Expansion and Development Study order to provide the Town with an analysis and comparison of existing and proposed development potential of properties adjacent utility gaps in the Route 44 corridor portion of the Canton Water WPCA sewershed. The existing development potential for subject parcels within the study area was estimated by using

the lack of public utilities and the existing zoning regulations as the limiting factor. The future development potential for the subject parcels within the study area was estimated by assuming the parcels would have access to public utilities. The future development potential also considered factors such as topography, floodplain, wetlands, listed species, Form-Based zoning code, and a practical construction factor. The comparison of the existing and future development potential resulted in an estimated increase in building square footage for each of the subject parcels. Our analysis indicated a potential increase of building square footage of approximately 340,000 sf if public utilities become available in the gap areas.

Based on information provided by the Tax Assessor, we assumed an average tax revenue increase of $4.47/building square foot increase across the Site, for a total future tax revenue increase of approximately $1,500,000. We estimated the cost of construction for sanitary sewer, water and natural gas, including all incidental construction, to fill the gaps within the study area at approximately $11,441,000 for a rate of return of approximately 7.6 years.

This Rate of Return assumes the town bears the full cost of all the utility upgrades, as well as that all the parcels within the Site are fully developed in the first year. We have provided a more detailed analysis of the Rate of Return with assumptions for the level of build-out over time. These can be seen in Section 5.4.

3.0 EXISTING CONDITIONS DEVELOPMENT POTENTIAL

3.1 Methodology

Based on direction from the Town Assessor, the most significant impact on property assessment is building square footage. Therefore, we analyzed the limiting effect that on-site septic systems, on-site water wells, and on-site heating systems (oil/propane/etc.) would have on the building footprint within the subject parcels and then prepared associated conceptual development scenarios on these parcels. These maximum building footprints under existing conditions would then be compared with the maximum building footprints under proposed conditions (assuming construction of the utility gaps) and the difference would be used to determine the maximum tax revenue achievable under future conditions.

3.2 Analysis

The properties within the Site analyzed as part of this study are those which meet all the following criteria:

- Properties with no existing access to public sewer, public water or natural gas. The development potential of those properties with access to all three (3) utilities is already maximized, due to the access of those utilities.
- Properties with a size greater than approximately 30,000 square feet. Smaller sites, and associated smaller buildings, generally are not restricted by lack of public water and/or sewer.
- Properties located in commercial zones. The majority of parcels within the Site are zoned commercial. Parcels in residential zones could potentially be

subdivided to smaller lots, which could then be accommodated with wells and septic. It was not within the scope of this study to analyze individual residential lots and their potential to subdivide.

- Properties that are either undeveloped or underdeveloped compared to the maximum development footprint allowed by the zoning regulations. The maximum development of a property is determined by the zoning regulations. If a property is already developed to the approximate maximum allowed by the regulations and does not currently have access to public utilities, then future access to public utilities would not afford its ability to increase the development footprint. Although there may be inherent value in the access to public utilities, this was not considered for properties already developed to their approximate maximum development footprint.

Based on the above criteria, 61 parcels were analyzed. These can be seen in Figures 2 and 3 and are listed in Section 4.3 below.

3.2.1 Septic

Of the 61 parcels that were analyzed, nine (9) parcels were identified that did not have access to sanitary sewer, were greater than or equal to approximately 30,000 square feet, and were not developed to the approximate maximum allowed per zoning. The following criteria were used to define "access to sanitary sewer" for the purposes of this study:

- The presence of a sanitary main within the Route 44 corridor directly fronting the subject property (i.e. a sewer connection would not require crossing the Metropolitan District (MDC) 48-inch raw water main.
- The presence of a sanitary main within the Route 44 corridor within a reasonable distance that a connection could be achieved from the subject property without crossing the MDC 48-inch raw water main.

Septic system capacity is a function of topography, soil conditions (specifically, its ability to percolate flow) and depth to restrictive layer (typically either ledge or seasonal high groundwater). On our compiled base mapping, we placed the maximum conceptual septic system that we thought each subject parcel could accommodate, based on the following factors:

- We assumed the system would be a gravity system and therefore be placed on the downgradient portion of the site.
- It was spaced away from site features as required by the Connecticut Department of Public Health (CT DPH) CT Public Health Code On-site Sewage Disposal Regulations and Technical Standards for Subsurface Sewage Disposal Systems, 2015 edition (CT DPH Technical Requirements)

Per the CT DPH Technical Requirements, each septic design must accommodate a Minimum Length Septic System (MLSS), based upon site conditions (topography, soil conditions, and depth to restrictive layer). Using the assumed maximum conceptual septic system length, we made assumptions for the site conditions to back calculate into a design flow associated with each system. We made assumptions for the site conditions of each property as follows:

- Topography – we used topography from our base mapping in the area of the conceptual septic system.
- Soil Conditions – we used limited data, supplied by the Farmington Valley Health District (FVHD). They provided us with several test pits and percolation tests in properties within the Site. The test pit and percolation test data is included as Appendix B. We also utilized The US Department of Agriculture Natural Resources Conservation Service (NRCS) online capabilities to run a Custom Soil Resource Report for State of Connecticut, specifically for the Site. This report shows soil types, and their general characteristics, within the Site. It has been included as Appendix C. Some of the characteristics included the percolation capability of the soil and the depth to restrictive layer. This data confirmed the limited test pit data we received from FVHD, and therefore provided a degree of confidence that it was sufficient to make soil characteristic and depth to restrictive layer assumptions for subject parcels where we did not have test pit data.

Using the maximum conceptual design flow for each subject parcel, we determined the maximum building footprint that would be able to be served by the septic system. We utilized 1 square foot of building (office or retail) per 0.1 gallon per day (GPD) of design flow, as specified by Section IV "Design Flows," Table 4 of the CT DPH Technical Requirements. We then used this footprint to prepare a conceptual site plan for each of the subject parcels. If the site-specific building footprint, septic footprint and associated zoning bulk/dimensional requirements (setbacks, parking, etc.) could be accommodated by a parcel, that building footprint was used to determine the existing conditions development potential. If the site-specific building footprint, septic footprint and associated zoning bulk/dimensional requirements could not be accommodated by a parcel, then the building footprint was reduced to a point such that it could be accommodated by the parcel.

In no case, did we assume a site septic system could handle greater than 7,500 GPD. Design flows greater than 7,500 GPD require permitting through CT DEEP and not through CT DPH. CT DEEP permitting requires a more interactive and complex permitting process that includes groundwater hydraulic monitoring that is not possible within the limits of this study scope. It becomes

even more complex when on-site water wells are also required on the same site as CT DEEP regulated septic systems. Based on our experience, as well as discussions with developers, we have assumed that the cost, complexity and unknown upfront factors of permitting a septic system greater than 7,500 GPD would be an inherent limiting factor.

The following table presents our estimated current development potential for the nine (9) parcels currently without access to sanitary sewer, as listed below.

BSC Lot #	Address	Max Conceptual Bldg SF w/out Sanitary
4	375 Albany Tpk	5775 sf
5	370 Albany Tpk	9,844 sf
7	364 Albany Tpk	10,654 sf
8	361 Albany Tpk	61,688 sf
10	345 Albany Tpk	29,167 sf
17	320 Albany Tpk	14,625 sf
20	59 East Hill Rd	13,500 sf
24	321 Albany Tpk	9,750 sf
26	315 Albany Tpk	5,906 sf

3.2.2 On-Site Water Well

Of the 61 parcels that were analyzed, 56 did not have access to public water. A conceptual well capacity analysis was performed on each of these sites to determine the maximum building floor area that could be supported by an on-site water well.

The ability of on-site water wells to supply sufficient yield is difficult to quantify or estimate without actual well data on a parcel by parcel basis. Geologic conditions are such that similar wells in locations as close as 50' may exhibit significantly different yields. Based upon data supplied by the FVHD, there are significant variations in well yield for properties within the Site. Well yield results varied between 1.25 gallons per minute (GPM) and 30 GPM. Besides yield variations, there are other unknowns, such as the potential for groundwater contaminants. In cases where there may be sufficient yield, there may be potential contamination issues with existing groundwater that would need to be treated.

Even with low yield results and contaminants, it may be possible to engineer functional water systems. Each site is specific and the well system design would potentially depend on factors such as the following:

- Type and size of holding tank. Smaller yields could be accommodated by holding tanks.
- Treatment system. This depends on the type of contaminants discovered in during the yield tests.

- Location on site. This can vary based on natural features (open water courses) and man-made features (footing drains, septic systems, etc.).

It is not within the scope of this study to perform detailed analyses of potential water systems on a site by site basis. Although in many cases it may be possible to engineer, permit and construct water systems on sites with challenging geological or contaminant issues, these issues, as well as the additional construction costs associated with well development, present an inherent limiting factor in the development of sites that require on-site water wells. After reviewing data from the FVHD, we noted that the minimum on-site well yield was tested at 1.25 GPM. Although we do not have information indicating any on-site water tank designs that may work in conjunction with the lowest-yield well, we assume the well can produce approximately 1,000 gallons during a 12-hour period, which is our assumption for the longest work day for a typical business.

Using the known data from FVHD, as well as the inherent limiting development factors of on-site water wells, we have assumed a maximum well yield of 1,000 GPD. As referenced in the Septic section above, we utilized 1 square foot of building (office or retail) per 0.1 GPD of design flow. We have therefore assumed that the maximum office/retail building size for any lot that requires on-site water wells is 10,000 square feet. For any parcels that currently do not have access to public water and contain buildings with greater than 10,000 square feet of floor area, we assumed the maximum floor area that could be accommodated by on site water wells to be the current floor area.

3.2.3 On-Site Heating

The lack of available natural gas to a site, and its effect on site development potential, is difficult to quantify. Other forms of building heating, including oil and propane, are available. Although natural gas would most times be preferable to other, on-site sources of heating, the lack of natural gas would not prevent development. There may be an inherent value to a site with access to gas for the following reasons:

- Less development cost since it does not require on-site tanks and associated appurtenances.
- The impact of on-site heat source tanks may remove developable site area.
- The cost of natural gas may be less than oil or propane.
- The site upkeep of on-site heat sources is a maintenance item not required for natural gas.

These costs are minor, however, compared to the total cost of developing and maintaining a site, especially smaller sites where relatively small oil or propane tanks would be sufficient to provide the building heating needs. While the

availability of natural gas may be beneficial to site development, and there may be a small inherent value to the availability of natural gas, we did not consider the lack of available natural gas to be of any limiting factor under the existing future development potential.

4.0 FUTURE CONDITIONS DEVELOPMENT POTENTIAL

4.1 Methodology

As previously mentioned, the most significant impact on property assessment is building square footage. The future conditions development potential assumes the site development is not limited by a lack of available public utilities. Therefore, we prepared conceptual development scenarios associated with the maximum building footprint allowed by the zoning regulations, on the subject parcels. Based upon information provided by the Tax Assessor, we determined the existing tax revenue per building square foot, for each subject parcel. We then took the average tax revenue per building square foot ($4.47/sf) and applied it to the maximum increase of potential building square foot to determine the total maximum tax revenue increase across all the subject parcels.

4.2 Analysis

For each subject parcel without public sewer, we determined a maximum building footprint (25% of the total acreage) of the total allowed by the zoning regulations. We then determined the minimum number of parking spaces that would be required by the zoning regulation for the building and prepared a conceptual site plan that depicted a potential site layout. If the site-specific building footprint, and associated zoning bulk/dimensional requirements (setbacks, parking, etc.) could not be accommodated by a parcel, then the building footprint was reduced. A conceptual site layout was produced, through an iterative process, such that an approximate maximum building footprint was realized. We also produced two (2) additional conceptual site plans for parcels that did have access to public sewer. We have included these conceptual site plans in Figures 4 – 6.

Due to the number of parcels we analyzed without public water, however, we were not able to produce conceptual site plans for each of these parcels. We did determine, though, that for the 12 parcels for which we prepared conceptual site plans, the maximum building footprint allowed by zoning was roughly equal to the maximum building floor area realized in the conceptual site plans. For our analysis of the maximum potential building floor area for those parcels without public water, we are assuming the maximum potential building floor area is the maximum building footprint allowed by zoning. These potential footprints, however, assume no other site restrictions, either natural, practical or per the zoning code. In order to account for these restrictions, we have considered the following:

- Topographical restrictions.

- Floodplain restrictions.
- Wetlands restrictions.
- Species restrictions.
- Relaxing of the zoning restrictions per the Form Based Code portion of the zoning code.
- Practical construction restrictions.

4.2.1 Topography Limitations

Using the topography generated from 2004 CTDOT Lidar Data, we analyzed the approximate slopes and grade changes of each site. From an engineering perspective, a site can be designed even with extreme topography present. However, we understand that substantial earthwork and/or retaining walls can be cost-prohibitive, and may be a very unattractive feature to a potential developer. Therefore, we categorized 10 parcels as topographically challenging. Although the base mapping shows that many of the sites exhibit grade change, we feel that only severe topography is a prohibitive site feature. To account for the loss to development potential to the site, we have assumed a reduction in the maximum future development footprint. The parcels, and their associated reduction due to topographical limitations are as follows:

- Lot 1 – 15%
- Lot 2 – 10%
- Lot 5 – 0% because the topography is in wetlands, which is already undevelopable, and accounted for in the wetlands limitation reduction (see Section 4.2.3)
- Lot 8 – 25%
- Lot 10 – 15%
- Lot 16 – 15%
- Lot 18 – 15%
- Lot 31 – 10%
- Lot 98 – 20%
- Lot 100 – 25%

4.2.2 Floodplain Limitations

In accordance with Section 6.2 Floodplain Management, of the zoning regulations, there are restrictions on development within a floodplain. We analyzed FEMA mapping (Flood Insurance Rate Map, Hartford County, CT Panel 308 of 675, Map No. 09003C0308F, Effective Date September 26, 2008 and Flood Insurance Rate Map, Hartford County, CT Panel 309 of 675, Map No. 09003C0309F, Effective Date September 26, 2008) to determine properties within the Site that were subject to base flooding. We are showing the limits of the base flood elevation on the plan set. FEMA mapping has been included as Appendix A, and is also shown on Figures 2 - 6. We determined that several

of the 61 properties were analyzed are situated within the base flood, including Lots 19, 21, 26, 28, 43, 61, 63, 74, and 76.

Although the local regulations require a higher level of development standard for properties within the floodplain, development is still possible. None of these properties within the floodplain are located within the floodway, which would have required further restrictions. For those properties within the floodplain, we have assumed a 10% reduction in the maximum future development footprint.

4.2.3 Wetlands Limitation

In accordance with the Town of Canton Regulations of the Inland Wetlands and Watercourses Agency, there are restrictions to development within town wetlands and associated upland review areas. We analyzed town GIS data, available on the town website to determine properties within the Site that were situated within wetland areas. We are showing the limits of wetland on the plan set. We understand that the areas of wetland shown on the town GIS are shown as approximate wetland areas and that actual delineation must be performed by a licensed soil scientist. We also assumed that areas depicted as wetlands on the GIS, but which are currently developed, would most likely not be delineated as wetlands. We have assumed that these developed areas within GIS limits of wetlands are NOT actually wetlands.

We determined that 13 parcels within the Site are situated within wetland areas. Depending on the relative area of wetlands per parcel, we have assumed either a 10%, 30%, or 50% reduction in the maximum future development footprint. The parcels are as follows:

- 10% Reduction – Lots 7, 21, 31, and 33.
- 30% Reduction – Lots 5, 23, 30, 35, 37, 42 and 74.
- 50% Reduction – Lots 39 and 43.

4.2.4 Listed Species Restrictions

In accordance with zoning requirements, projects located within area of listed species (CT DEEP Natural Diversity Database boundaries) must submit a CT DEEP review request. The Planning & Zoning Commission typically requires the CT DEEP recommendations be implemented as a condition of the Site Plan Approval permit. It has been our experience that, although these recommendations can have project cost and schedule implications, they generally do not restrict the development footprint. The recommendations are specific to the type of species that are listed so it is not known what specific restrictions may be placed on which parcels.

We have analyzed the "CT DEEP Natural Diversity Data Base Areas, Canton, CT, June 2017," (Appendix D) and determined that the majority of the Site is

located within CT DEEP listed species. We have not assumed, however, that any specific parcel will be restricted due to its location within this area.

4.2.5 Form-Based Code

The Town of Canton has recently adopted a Form-Based Code for Design Districts, which has relaxed bulk and dimensional requirements for lots within designated areas. Our site is located within three (3) of the design districts; Harts Corner Design Village District, Canton Village Design Village District, and East Gateway Design Village District. We determined that our estimated maximum building footprints (described below in Section 4.2 below) were based on:

- Parking as it relates to maximum site impervious coverage.
- Maximum building coverage allowed by the zoning regulations.

The Form Based Code provides relief for, among other things, parking, site impervious coverage and building coverage. We have assumed a potential increase of 15% in the maximum future development footprint due to the ability to relax these requirements that the Form-Based Code affords.

4.2.6 Practical Construction Restrictions

As discussed in Section 3.1, the most significant factor in property value assessment is building square footage. The purpose of our analysis, taking multiple factors into consideration, is to determine the maximum future development footprint so that this number may be used to determine potential future tax revenue. It is not reasonable or prudent, however, to assume that each site will in fact be developed to this maximum footprint, especially since potential town financial commitments may be based on the future development of the parcels within the Site. We have therefore applied a 10% reduction to the maximum future development footprint, for each parcel, as a practical construction consideration.

4.3 Results

Our conceptual well analysis indicated that six (6) parcels are limited by lack of available public sewer and 30 of are limited by lack of available public water.

The following table assumes a full build of the utility gap areas, and lists future maximum floor area increase and associated yearly tax revenue associated with the floor area increase. The tax revenue increase is based on the tax revenue per building square foot average of $4.47/sf.

BSC Lot #	Address	Available Public Utilities	Existing Bldg SF	Max Existing Conceptual Bldg SF	Max Future Conceptual Bldg SF	Maximum Yearly Potential Tax Revue
1	104 Dyer Ave	S,G	0 sf	10,000 sf	21,000 sf	$49,170
2	401 Albany Tpk	S	0 sf	10,000 sf	19,200 sf	$41,124
4	375 Albany Tpk	None	0 sf	5,500 sf	5,500 sf	$0
5	370 Albany Tpk	None	5,760 sf	9,844 sf	37,713 sf	$124,576
7	364 Albany Tpk	None	6,880 sf	10,000 sf	25,000 sf	$67,050
8	361 Albany Tpk	None	1,575 sf	10,000 sf	50,456 sf	$180,839
9	352 Albany Tpk	S	2,036 sf	10,000 sf	19,408 sf	$40,446
10	345 Albany Tpk	None	4,824 sf	10,000 sf	29,508 sf	$87,200
12	8 Slvr Mine Acr	None	1,344 sf	5,478 sf	5,478 sf	$0
14	6 Slvr Mine Acr	None	1,420 sf	5,072 sf	5,072 sf	$0
16	4 Slvr Mine Acr	None	1,718 sf	4,687 sf	4,687 sf	$0
17	320 Albany Tpk	None	1,630 sf	7,200 sf	7,200 sf	$0
18	2 Slvr Mine Acr	None	1,742 sf	4,504 sf	4,504 sf	$0
19	316 Albany Tpk	None	0 sf	9,750 sf	9,750 sf	$0
20	59 East Hill Rd	None	1,989 sf	5,400 sf	5,400 sf	$0
21	312 Albany Tpk	S	3,416 sf	10,000 sf	10,956 sf	$4,271
23	310 Albany Tpk	S	28,080 sf	28,080 sf	39,449 sf	$50,820
24	321 Albany Tpk	None	4,128 sf	9,750 sf	18,147 sf	$36,415
25	306 Albany Tpk	S	975 sf	7,326 sf	7,326 sf	$0
26	315 Albany Tpk	None	6,100 sf	6,100 sf	12,600 sf	$29,055
27	298 Albany Tpk	S	4,200 sf	10,000 sf	13,525 sf	$15,758
28	309 Albany Tpk	S	400 sf	6,695 sf	6,695 sf	$0
29	296 Albany Tpk	S	4,375 sf	10,000 sf	10,482 sf	$2,155
30	305 Albany Tpk	S	2,322 sf	6,706 sf	6,706 sf	$0
31	290 Albany Tpk	S	5,500 sf	10,000 sf	12,416 sf	$10,801
32	301 Albany Tpk	S	1,182 sf	9,355 sf	9,355 sf	$0
33	288 Albany Tpk	S	953 sf	7,405 sf	7,405 sf	$0
34	299 Albany Tpk	S	1,788 sf	10,000 sf	11,271 sf	$5,682
35	286 Albany Tpk	S	914 sf	10,000 sf	14,044 sf	$18,076
36	295 Albany Tpk	S	0 sf	10,000 sf	67,275 sf	$256,019
37	282 Albany Tpk	S	1,268 sf	5,602 sf	5,602 sf	$0
38	291 Albany Tpk	S	7,120 sf	10,000 sf	11,947 sf	$8,705
39	280 Albany Tpk	S	1,968 sf	7,326 sf	7,326 sf	$0
40	285 Albany Tpk	S	2,283 sf	10,000 sf	36,969 sf	$120,553
41	272 Albany Tpk	S	2,382 sf	9,468 sf	9,468 sf	$0
42	277 Albany Tpk	S	10,424 sf	10,424 sf	17,752 sf	$32,756
43	250 Albany Tpk	S,W	23,048 sf	23,048 sf	30,274 sf	$0
44	271 Albany Tpk	S	1,495 sf	10,000 sf	15,780 sf	$25,835
47	244 Albany Tpk	S,W	3,099 sf	9,919 sf	9,919 sf	$0
51	232 Albany Tpk	S	1,000 sf	7,664 sf	7,664 sf	$0
53	228 Albany Tpk	S	1,452 sf	10,000 sf	12,286 sf	$10,216
54	253 Albany Tpk	S,W	336 sf	7,214 sf	7,214 sf	$0
57	220 Albany Tpk	None	22,014 sf	22,014 sf	29,869 sf	$35,110
58	247 Albany Tpk	S,W	3,261 sf	7,664 sf	7,664 sf	$0
59	220 Albany Tpk	S	2,800 sf	6,312 sf	6,312 sf	$0
61	210 Albany Tpk	S	2,136 sf	10,000 sf	16,129 sf	$27,397
62	241 Albany Tpk	S,W	1,329 sf	11,046 sf	11,046 sf	$0
63	200 Albany Tpk	S,G	4,500 sf	5,579 sf	5,579 sf	$0

68	225 Albany Tpk	S	3,958 sf	10,000 sf	13,864 sf	$17,270
70	215 Albany Tpk	S	5,650 sf	10,000 sf	15,892 sf	$26,339
71	188 Albany Tpk	S,G	4,347 sf	9,130 sf	9,130 sf	$0
74	211 Albany Tpk	S	6,680 sf	10,000 sf	30,534 sf	$91,785
76	207 Albany Tpk	S	1,988 sf	6,188 sf	6,188 sf	$0
82	195 Albany Tpk	S	3,016 sf	10,000 sf	12,173 sf	$9,713
84	191 Albany Tpk	S	17,100	8,679 sf	8,679 sf	$0
90	175 Albany Tpk	S,G	1,916	10,000 sf	22,655 sf	$56,568
92	171-173 Albany	S,G	3,760 sf	10,000 sf	10,031 sf	$0
94	163 Albany Tpk	S,G	8,565 sf	10,000 sf	16,456 sf	$28,858
96	161 Albany Tpk	S,G	2,886 sf	8,228 sf	8,228 sf	$0
98	155 Albany Tpk	S,G	2,112 sf	7,405 sf	7,405 sf	$0
100	153 Albany Tpk	S,G	3,842 sf	5,884 sf	5,884 sf	$0

S – Sanitary Sewer
W – Public Water
G – Natural Gas

Total Potential Yearly Tax Revenue = ***$1,500,000***

The total maximum future conceptual building increase is approximately 340,000 sf. At $4.47/sf, we estimate a maximum potential yearly tax revenue increase of approximately $1,500,000 to the town, based on full construction of the utility gaps.

A full site analysis matrix has been provided in Appendix F, which documents existing parcel information, maximum existing building footprints and maximum future building footprints, with adjustment for zoning and environmental factors.

4.3.1 Potential Maximum Efficiency Results

Although it was not part of the scope of this study to determine differing utility gap build-out scenarios and the resulting tax revenue increase, we observed specific areas/parcels that would appear to provide the greatest increase of tax revenue if public utilities were provided. As expected, the greatest increases in tax revenue were seen on the larger parcels. We noticed there is a particular cluster of larger parcels located between Dyer Avenue and East Hill Road (BSC Lots 1, 2, 5, 7-10) that, if provided public water and sewer and full built, could generate an estimated $590,000 yearly tax revenue, based on and additional potential 132,000 square feet of building footprint at $4.47/sf.

5.0 UTILITY EXPANSION

The final component of our study after determining the gaps in utility service along the Route 44 corridor was to prepare an opinion of probable cost for the Town to construct and/or extend sanitary sewer, public water, and natural gas service. A major factor in the cost of adding utility services is the presence of a 48-inch MDC raw water main that runs down the middle of Route 44. There is a substantial fee (on the order of approximately $300k) that must be paid to MDC to cross their water main with any utilities, therefore it would be more economically feasible to provide utility services on both sides of the road. Additionally, since Route 44 is a State road, the construction must comply with the CTDOT requirements in *Maintenance Directive*

93-1 for a permanent trench pavement replacement, which requires a milling operation from shoulder to centerline along the entire trench length. Since utilities will have to be installed on both sides of the road, this essentially requires that the road will have to be milled from shoulder to shoulder. Unit costs have been compiled from CT DOT, NH DOT, and recent contractor bids and can be found in Appendix E. Each type of utility service is described in greater detail below:

5.1 Sanitary Sewer

The majority of the parcels in the study area have access to sanitary sewer, with the only gap in service being Dyer Avenue to East Hill Road. The total length of pipe required would be approximately 2,400 feet in each direction, for a total of 4,800 linear feet. Based on information from the Canton Water Pollution Control Authority, the average cost per linear foot ranges between $250 - $300. We have assumed a cost of $275 per linear foot, which results in a total cost for sanitary sewer installation of $1,320,000.

5.2 Water

The majority of the parcels in the study area do not have access to public water. Public water is available on the south side of the road from 250 Albany Turnpike to 220 Albany Tpk and Dowd Avenue to Secret Lake Road. There are also several locations where a lateral crosses to the north side of the road, however they only provide service to the immediate parcels. The total length of pipe required would be approximately 14,200 linear feet. Based on information from the Connecticut Water, the average cost per linear foot ranges between $200 - $350. We have assumed a cost $300 per linear foot, which results in a total cost for water main installation of $4,260,000.

5.3 Natural Gas

The majority of the parcels in the study area do not have access to natural gas. Based on mapping from CNG, there appears to be natural gas service on both sides of the street from Dowd Avenue to Secret Lake Road. The total length of pipe required would be approximately 13,800 linear feet. We have assumed a cost per linear foot of $100, which results in a total cost for natural gas main installation of $1,380,000.

For the full expansion of all three (3) utilities as indicated above, a cost of approximately $11,441,000 was estimated, which includes major items such as new asphalt, milling, utility installation, traffic maintenance, and mobilization, as well as an 8% contingency.

5.4 Estimated Approximate Rate of Return

Based on an estimated total cost of $11,441,000 and a yearly maximum tax revenue increase of $1,500,000, the rate of return of the Town investment in public utilities for the entire site is approximately 7.6 years. This assumes that the Town bears the full cost of the utility installation and that all the parcels within the site are fully developed.

Based on information provided by the Town Planner, new building square footage along the Route 44 corridor, in areas with utilities, has increased over the last 10 years at an average of approximately 3,800 square feet per year. This is approximately 1%, per year, of the maximum estimated potential available building square footage increase. We have provided the following tables to indicate what the rate of return might be at various levels of development. These assume the town will bear the full cost of the utility installation and do not include the cost of services incurred by the additional development or interest paid by the Town as part of debt service. The tables assume the following:

- Total Cost of Utility Upgrade - $11,400,000
- Total Available Building SF Increase – 340,000 sf
- Yearly Tax Revenue - $4,47/sf of Building Area

100% Buildout Rate = 1% Per Year

Year	Total Building Increase (SF)	Yearly Tax Revenue Increase	Rate of Return (Years)	Construction Cost Remaining
1	3,400	$15,198	749	$11,384,802
2	6,800	$30,396	374	$11,354,406
3	10,200	$45,594	248	$11,308,812
4	13,600	$60,792	185	$11,248,020
5	17,000	$75,990	147	$11,172,030
6	20,400	$91,188	122	$11,080,842
7	23,800	$106,386	103	$10,974,456
8	27,200	$121,584	89	$10,852,872
9	30,600	$136,782	78	$10,716,090
10	34,000	$151,980	70	$10,564,110
20	68,000	$303,960	27	$8,208,420
30	102,000	$455,940	10	$4,332,930
38	129,200	$577,524	0.2	$138,282
39	132,600	$592,722	0	$454,440
40	136,000	$607,920	0	$1,062,360
50	170,000	$759,900	0	$7,977,450
60	204,000	$911,880	0	$16,412,340
70	238,000	$1,063,860	0	$26,367,030
80	272,000	$1,215,840	0	$37,841,520
90	306,000	$1,367,820	0	$50,835,810
100	340,000	$1,519,800	0	$65,349,900

100% Buildout Rate = 5% Per Year

Year	Total Building Increase (SF)	Yearly Tax Revenue Increase	Rate of Return (Years)	Construction Cost Remaining
1	17,000	$75,990	149	$11,324,010
2	34,000	$151,980	74	$11,172,030
3	51,000	$227,970	48	$10,944,060
4	68,000	$303,960	35	$10,640,100
5	85,000	$379,950	27	$10,260,150
6	102,000	$455,940	22	$9,804,210
7	119,000	$531,930	17	$9,272,280
8	136,000	$607,920	14	$8,664,360
9	153,000	$683,910	12	$7,980,450
10	170,000	$759,900	10	$7,220,550
11	187,000	$835,890	8	$6,384,660
12	204,000	$911,880	6	$5,472,780
13	221,000	$987,870	5	$4,484,910
14	238,000	$1,063,860	3	$3,421,050
15	255,000	$1,139,850	2	$2,281,200
16	272,000	$1,215,840	1	$1,065,360
17	289,000	$1,291,830	0.2	$226,470
18	306,000	$1,367,820	0	$1,594,290
19	323,000	$1,443,810	0	$3,038,100
20	340,000	$1,519,800	0	$4,557,900

Since a full 100% buildout of 340,000 square feet is unrealistic, we also analyzed a 70% maximum buildout (238,000 square feet) with an average growth rate of 3.5%. This scenario would result in a 20-year buildout period with a full return on investment in 21 years, assuming the Town bears the full cost of the utility installation. This also does not account for the cost of services incurred by the additional development or interest paid by the Town as part of debt service. See the table below.

Year	Total Building Increase (SF)	Yearly Tax Revenue Increase	Rate of Return (Years)	Construction Cost Remaining
1	11,900	$53,193	213	$11,346,807
2	23,800	$106,386	106	$11,240,421
3	35,700	$159,579	69	$11,080,842
4	47,600	$212,772	51	$10,868,070
5	59,500	$265,965	40	$10,602,105
6	71,400	$319,158	32	$10,282,947
7	83,300	$372,351	27	$9,910,596
8	95,200	$425,544	22	$9,485,052
9	107,100	$478,737	19	$9,006,315
10	119,000	$531,930	16	$8,474,385
11	130,900	$585,123	13	$7,889,262
12	142,800	$638,316	11	$7,250,946
13	154,700	$691,509	9	$6,559,437
14	166,600	$744,702	8	$5,814,735
15	178,500	$797,895	6	$5,016,840
16	190,400	$851,088	5	$4,165,752
17	202,300	$904,281	4	$3,261,471
18	214,200	$957,474	2	$2,303,997
19	226,100	$1,010,667	1	$1,293,330
20	238,000	$1,063,860	0.2	$229,470
21	238,000	$1,063,860	0	$834,390

5.4.1 Potential Maximum Efficiency Rate of Return

As mentioned in Section 4.3.1, we analyzed an area in the utility gap that, if public water and sewer were constructed, would appear to provide the most efficient rate of

return. The cost of the public improvements in this area is associated with 4,800 linear feet of sanitary sewer and 5,000 linear feet of public water, at a total estimated cost of $4,700,000. Given the maximum potential tax increase of $590,000, this results in an estimated Rate of Return of 8.0 years, which shows the construction of utilities in this area does not provide a more efficient Rate of Return than the full build scenario. This assumes that the Town bears the full cost of the utility installation and that all the parcels within this particular area are fully developed. The utility expansion area can be seen in Figure 8 and the associated cost estimate can be seen in Appendix F.

6.0 CONCLUSION

BSC performed a Utility Expansion and Development Study order to provide the Town with an analysis and comparison of existing and proposed development potential of properties adjacent utility gaps in the Route 44 corridor portion of the Canton Water WPCA sewershed. The existing development potential for subject parcels within the study area was estimated by using the lack of public utilities and the existing zoning regulations as the limiting factor. The future development potential for the subject parcels within the study area was estimated by assuming the parcels would have access to public utilities. The future development potential also considered factors such as topography, floodplain, wetlands, listed species, Form-Based zoning code, and a practical construction factor. The comparison of the existing and future development potential resulted in an estimated increase in building square footage for each of the subject parcels. Our analysis indicated a potential increase of building square footage of approximately 340,000 sf if public utilities become available in the gap areas.

Based on information provided by the Tax Assessor, we assumed an average tax revenue increase of $4.47/building square foot increase across the Site, for a total future tax revenue increase of approximately $1,500,000. We estimated the cost of construction for sanitary sewer, water and natural gas, including all incidental construction, to fill the gaps within the study area at approximately $11,441,000 for a rate of return of approximately 7.6 years.

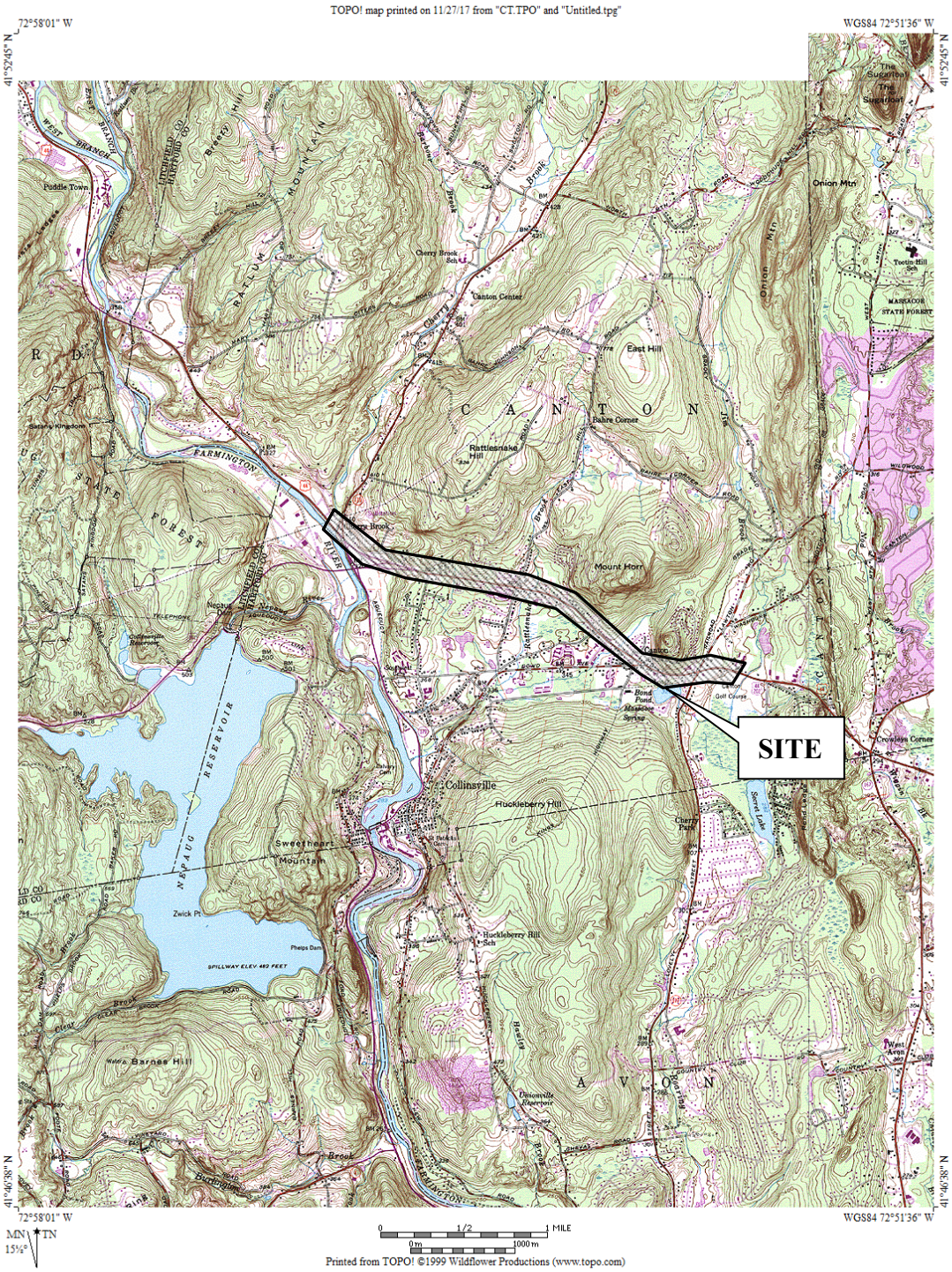
This Rate of Return assumes the town bears the full cost of all the utility upgrades, that all the parcels within the Site are fully developed in the first year, and does not account for the cost of services incurred by the additional development or interest paid by the Town as part of debt service. We have provided a more detailed analysis of the Rate of Return with assumptions for the level of build-out over time. These can be seen in Section 5.4.

Figure 1 – Site Location Map

Route 44 Corridor

Canton, Connecticut

Scale = 1:24,000



SITE LOCATION MAP

SCALE: 1" = 1500'

WESTERN LIMIT OF CANTON SEWERSHED

US HWY 44

APPROXIMATE LIMIT OF FLOODPLAIN (TYP.)

DANWARD DRIVE

DYER AVENUE

LOT 1

LOT 2

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

LOT 9

LOT 10

LOT 11

LOT 12

LOT 13

LOT 14

LOT 15

LOT 16

LOT 17

LOT 18

LOT 19

LOT 20

LOT 21

LOT 22

LOT 24

LOT 26

EAST HILL ROAD

EXISTING NATURAL GAS (TYP.)

EXISTING SANITARY SEWER (TYP.)

EXISTING PUBLIC WATER (TYP.)

APPROXIMATE LIMIT OF WETLANDS (TYP.)

MATCHLINE - SEE FIGURE 3

ZONING TABLE

DISTRICT	SB
PRINCIPLE USE	COMMERCIAL
MIN. LOT AREA	30,000 SF
MIN. FRONTAGE	100'
MIN. SQUARE	90'
MIN. FRONT YARD	10'
MIN. SIDE YARD	15' 30'
MIN. REAR YARD	15' 50'
MAX. BUILDING COVERAGE	25%
MAX. IMPERVIOUS COVERAGE	50%
MAX. HEIGHT / NUMBER OF STORIES	35' 2.5 STORIES

LEGEND

- COMMERCIAL DISTRICT (SB)
- RESIDENTIAL DISTRICT (AR-2)
- MIXED RESIDENTIAL DISTRICT (MR)
- GARDEN APARTMENTS DISTRICT (GA)
- APPROXIMATE LIMIT OF FLOODPLAIN
- APPROXIMATE LIMIT OF WETLANDS
- APPROXIMATE PROPERTY LINE
- APPROXIMATE ROAD EDGE
- APPROXIMATE EXISTING PUBLIC WATER SERVICE
- APPROXIMATE EXISTING SANITARY SEWER SERVICE
- APPROXIMATE EXISTING NATURAL GAS SERVICE

ROUTE 44 UTILITY STUDY & EXPANSION - DECEMBER 2017

ROUTE 44 UTILITY STUDY & EXPANSION

ALBANY TURNPIKE (CT-44)

IN

CANTON
CONNECTICUT

OVERALL PLAN WEST

DECEMBER 2017

REVISIONS:

PREPARED FOR:
TOWN OF CANTON
4 MARKET STREET
CANTON, CT 06022

BSC GROUP
300 Winding Brook Drive
Glastonbury, Connecticut 06033
860 652 8227

SCALE: 1" = 250'

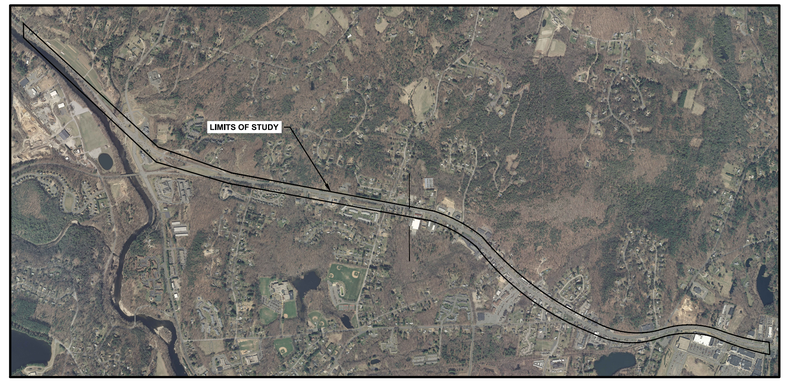
0 125 250 500 FEET

FILE: 8366801-SITE PLAN.DWG

DWG. NO:

JOB. NO: 83668.01

FIGURE 2



SITE LOCATION MAP

SCALE: 1" = 1500'

APPROXIMATE LIMIT OF FLOODPLAIN (TYP.)

APPROXIMATE LIMIT OF WETLANDS (TYP.)

EXISTING SANITARY SEWER (TYP.)

EXISTING PUBLIC WATER (TYP.)

EXISTING NATURAL GAS SERVICE (TYP.)

EASTERN LIMIT OF CANTON SEWERSHED

MATCHLINE - SEE FIGURE 2

ZONING TABLE

DISTRICT	SB
PRINCIPLE USE	COMMERCIAL
MIN. LOT AREA	30,000 SF
MIN. FRONTAGE	100'
MIN. SQUARE	90'
MIN. FRONT YARD	10'
MIN. SIDE YARD	15' 30'
MIN. REAR YARD	15' 50'
MAX. BUILDING COVERAGE	25%
MAX. IMPERVIOUS COVERAGE	50%
MAX. HEIGHT / NUMBER OF STORIES	35' 2.5 STORIES

LEGEND

- COMMERCIAL DISTRICT (SB)
- RESIDENTIAL DISTRICT (AR-2)
- MIXED RESIDENTIAL DISTRICT (MR)
- GARDEN APARTMENTS DISTRICT (GA)
- APPROXIMATE LIMIT OF FLOODPLAIN
- APPROXIMATE LIMIT OF WETLANDS
- APPROXIMATE PROPERTY LINE
- APPROXIMATE ROAD EDGE
- APPROXIMATE EXISTING PUBLIC WATER SERVICE
- APPROXIMATE EXISTING SANITARY SEWER SERVICE
- APPROXIMATE EXISTING NATURAL GAS SERVICE

ROUTE 44 UTILITY STUDY & EXPANSION - DECEMBER 2017

ROUTE 44 UTILITY STUDY & EXPANSION

ALBANY TURNPIKE (CT-44)

IN

CANTON
CONNECTICUT

OVERALL PLAN EAST

DECEMBER 2017

REVISIONS:

PREPARED FOR:
TOWN OF CANTON
4 MARKET STREET
CANTON, CT 06022

BSC GROUP
300 Winding Brook Drive
Glastonbury, Connecticut 06033
860 652 8227

SCALE: 1" = 250'

0 125 250 500 FEET

FILE: 8366801-SITE PLAN.DWG

DWG. NO:

JOB. NO: 83668.01

FIGURE 3

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 1
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	1.60 AC
MAX. BUILDING COVERAGE	25%	10,500 SF 15%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	21,000 SF
MAX. IMPERVIOUS COVERAGE	50%	44%
REQUIRED PARKING	1 SPACE / 300 SF 70	70

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 2
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	1.49 AC
MAX. BUILDING COVERAGE	25%	9,600 SF 15%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	19,200 SF
MAX. IMPERVIOUS COVERAGE	50%	50%
REQUIRED PARKING	1 SPACE / 300 SF 64	64

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 4
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	0.88 AC
MAX. BUILDING COVERAGE	25%	5,500 SF 14%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	5,500 SF
MAX. IMPERVIOUS COVERAGE	50%	29%
REQUIRED PARKING	1 SPACE / 300 SF 18	18

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 5
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	4.78 AC
MAX. BUILDING COVERAGE	25%	25,000 SF 12%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	50,000 SF
MAX. IMPERVIOUS COVERAGE	50%	43%
REQUIRED PARKING	1 SPACE / 300 SF 167	167

ROUTE 44 UTILITY STUDY & EXPANSION - DECEMBER 2017

ROUTE 44 UTILITY STUDY & EXPANSION

ALBANY TURNPIKE (CT-44)

IN

CANTON
CONNECTICUT

DETAILED SITE PLANS

DECEMBER 2017

REVISIONS:

PREPARED FOR:
TOWN OF CANTON
4 MARKET STREET
CANTON, CT 06022

BSC GROUP
300 Winding Brook Drive
Glastonbury, Connecticut 06033
860 652 8227

SCALE: 1" = 60'

0 30 60 120 FEET

FILE: 8366801-SITE PLAN.DWG

DWG. NO:

JOB. NO: 83668.01

FIGURE 4

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 7
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	2.77 AC
MAX. BUILDING COVERAGE	25%	25,000 SF 21%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	25,000 SF
MAX. IMPERVIOUS COVERAGE	50%	48%
REQUIRED PARKING	1 SPACE / 300 SF 84	84

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 8
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	7.28 AC
MAX. BUILDING COVERAGE	25%	65,000 SF 20%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	65,000 SF
MAX. IMPERVIOUS COVERAGE	50%	43%
REQUIRED PARKING	1 SPACE / 300 SF 217	217

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 9
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	1.69 AC
MAX. BUILDING COVERAGE	25%	9,000 SF 12%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	18,000 SF
MAX. IMPERVIOUS COVERAGE	50%	37%
REQUIRED PARKING	1 SPACE / 300 SF 60	60

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 10
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	3.08 AC
MAX. BUILDING COVERAGE	25%	18,000 SF 13%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	36,000 SF
MAX. IMPERVIOUS COVERAGE	50%	45%
REQUIRED PARKING	1 SPACE / 300 SF 217	217

ROUTE 44 UTILITY STUDY & EXPANSION - DECEMBER 2017

ROUTE 44 UTILITY STUDY & EXPANSION

ALBANY TURNPIKE (CT-44)

IN

CANTON
CONNECTICUT

DETAILED SITE PLANS

DECEMBER 2017

REVISIONS:

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TOWN OF CANTON
4 MARKET STREET
CANTON, CT 06022

BSC GROUP
300 Winding Brook Drive
Glastonbury, Connecticut 06033
860 652 8227

SCALE: 1" = 60'

0 30 60 120 FEET

FILE: 8366801-SITE PLAN.DWG

DWG. NO:

JOB. NO: 83668.01

FIGURE 5

LEGEND

- APPROXIMATE PROPERTY LINE
- BUILDING SETBACK
- APPROXIMATE ROAD EDGE
- APPROXIMATE EXISTING PUBLIC WATER SERVICE
- APPROXIMATE EXISTING SANITARY SEWER SERVICE
- APPROXIMATE EXISTING NATURAL GAS SERVICE
- APPROXIMATE LIMIT OF FLOODPLAIN
- APPROXIMATE LIMIT OF WETLANDS

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 17
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	0.73 AC
MAX. BUILDING COVERAGE	25%	7,200 SF 23%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	7,200 SF
MAX. IMPERVIOUS COVERAGE	50%	45%
REQUIRED PARKING	1 SPACE / 300 SF 24	24

ZONING TABLE

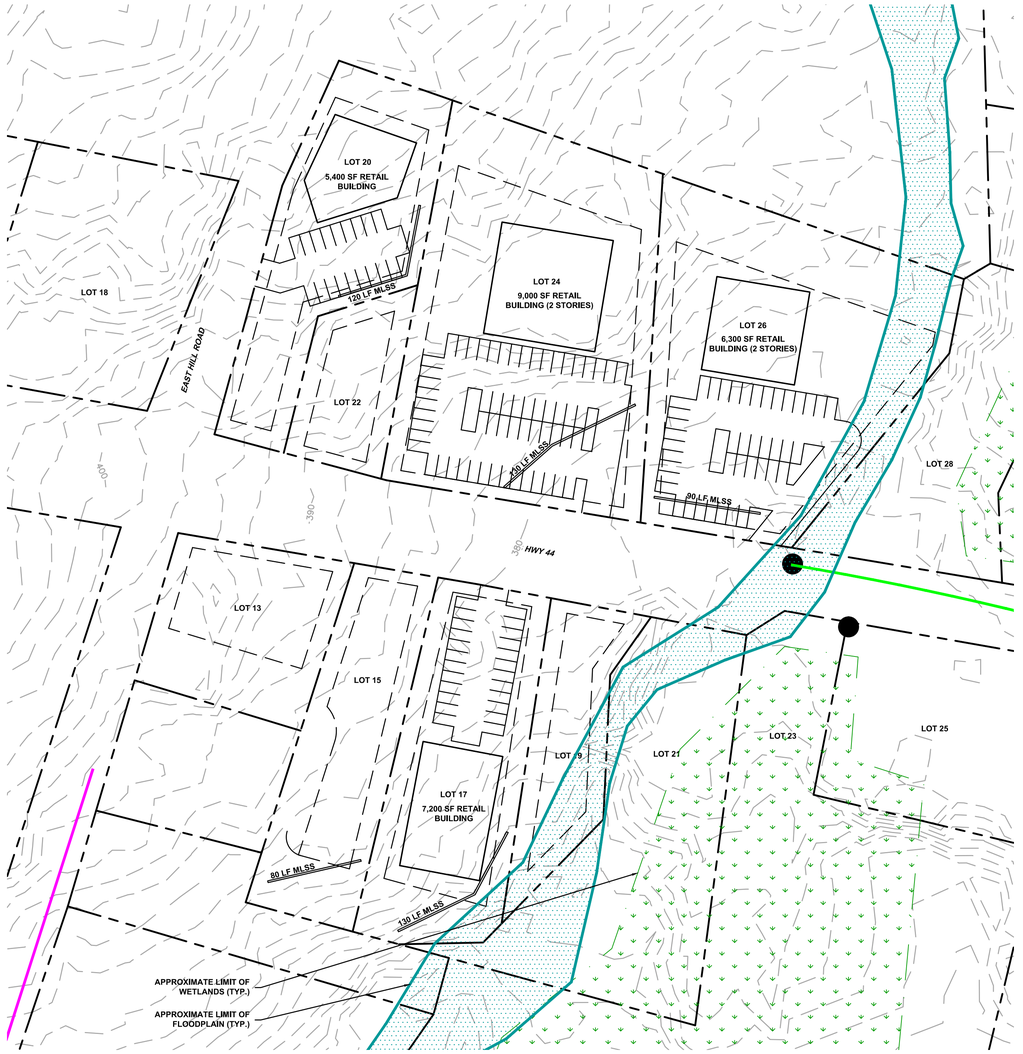
LOT NUMBER	REQUIRED	LOT 20
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	0.65 AC
MAX. BUILDING COVERAGE	25%	5,400 SF 19%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	5,400 SF
MAX. IMPERVIOUS COVERAGE	50%	40%
REQUIRED PARKING	1 SPACE / 300 SF 18	18

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 24
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	1.61 AC
MAX. BUILDING COVERAGE	25%	9,000 SF 13%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	18,000 SF
MAX. IMPERVIOUS COVERAGE	50%	43%
REQUIRED PARKING	1 SPACE / 300 SF 60	60

ZONING TABLE

LOT NUMBER	REQUIRED	LOT 26
DISTRICT / USE	SB	RETAIL
MIN. LOT AREA	30,000 SF	1.03 AC
MAX. BUILDING COVERAGE	25%	6,300 SF 14%
MAX. GROSS FLOOR AREA	25,000 SF / BLDG 65,000 SF TOTAL	12,600 SF
MAX. IMPERVIOUS COVERAGE	50%	50%
REQUIRED PARKING	1 SPACE / 300 SF 42	42



ROUTE 44 UTILITY STUDY & EXPANSION - DECEMBER 2017

ROUTE 44 UTILITY STUDY & EXPANSION

ALBANY TURNPIKE (CT-44)

IN

CANTON
CONNECTICUT

DETAILED SITE PLANS

DECEMBER 2017

REVISIONS:

PREPARED FOR:
TOWN OF CANTON
4 MARKET STREET
CANTON, CT 06022

BSC GROUP
300 Winding Brook Drive
Glastonbury, Connecticut 06033
860 652 8227

SCALE: 1" = 60'

0 30 60 120 FEET

FILE: 8366801-SITE PLAN.DWG

DWG. NO:

JOB. NO: 83668.01

FIGURE 6

SITE LOCATION MAP

SCALE: 1" = 1500'

US HWY 44

PROVIDE WATER, SANITARY SEWER, AND NATURAL GAS ON BOTH SIDES OF MDC WATER MAIN

SECTION OF SANITARY SEWER TO BE CONSTRUCTED IN FUTURE PROJECT

PROVIDE SANITARY SEWER TO EXISTING MANHOLE

MATCHLINE - SEE FIGURE 8

DANWARD DRIVE

DYER AVENUE

EAST HILL ROAD

LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
LOT 24
LOT 26

ZONING TABLE

DISTRICT	SB
PRINCIPLE USE	COMMERCIAL
MIN. LOT AREA	30,000 SF
MIN. FRONTAGE	100'
MIN. SQUARE	90'
MIN. FRONT YARD	10'
MIN. SIDE YARD	15' 30'
MIN. REAR YARD	15' 50'
MAX. BUILDING COVERAGE	25%
MAX. IMPERVIOUS COVERAGE	50%
MAX. HEIGHT / NUMBER OF STORIES	35' 2.5 STORIES

LEGEND

- APPROXIMATE LIMIT OF FLOODPLAIN
- APPROXIMATE LIMIT OF WETLANDS
- APPROXIMATE PROPERTY LINE
- APPROXIMATE ROAD EDGE
- APPROXIMATE EXISTING PUBLIC WATER SERVICE
- APPROXIMATE EXISTING SANITARY SEWER SERVICE
- APPROXIMATE EXISTING NATURAL GAS SERVICE
- WATER MAIN EXPANSION
- SANITARY SEWER EXPANSION
- NATURAL GAS EXPANSION

ROUTE 44 UTILITY STUDY & EXPANSION - DECEMBER 2017

ROUTE 44 UTILITY STUDY & EXPANSION

ALBANY TURNPIKE (CT-44)

IN

CANTON
CONNECTICUT

CONCEPTUAL UTILITY EXPANSION

DECEMBER 2017

REVISIONS:

PREPARED FOR:

TOWN OF CANTON
4 MARKET STREET
CANTON, CT 06022

BSC GROUP
300 Winding Brook Drive
Glastonbury, Connecticut 06033
860 652 8227

SCALE: 1" = 250'

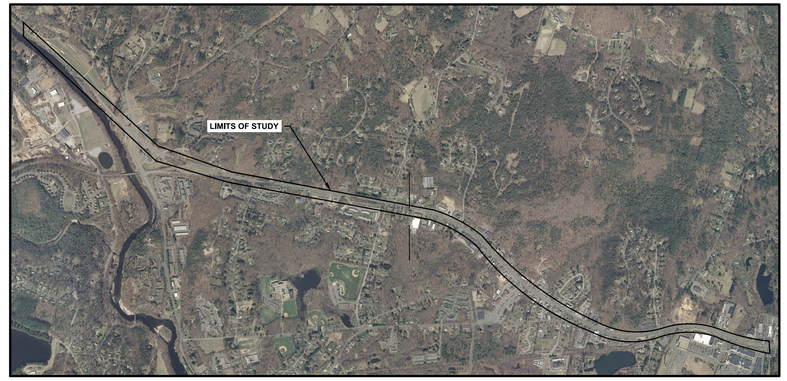
0 125 250 500 FEET

FILE: 8366801-SITE PLAN.DWG

DWG. NO:

JOB. NO: 83668.01

FIGURE 7



SITE LOCATION MAP

SCALE: 1" = 1500'

N

PROVIDE SANITARY SEWER TO EXISTING MANHOLE

PROVIDE WATER AND NATURAL GAS ON BOTH SIDES OF MDC WATER MAIN

MATCHLINE - SEE FIGURE 7

MATCHLINE - SEE FIGURE 8

LOT 21 LOT 23 LOT 25 LOT 26 LOT 27 LOT 28 LOT 29 LOT 30 LOT 31 LOT 32 LOT 33 LOT 34 LOT 35 LOT 36 LOT 37 LOT 38 LOT 39 LOT 40 LOT 41 LOT 42 LOT 43 LOT 44 LOT 45 LOT 46 LOT 47 LOT 48 LOT 49 LOT 50 LOT 51 LOT 52 LOT 53 LOT 54 LOT 55 LOT 56 LOT 57 LOT 58 LOT 59 LOT 60 LOT 61 LOT 62 LOT 63 LOT 64 LOT 65 LOT 66 LOT 67 LOT 68 LOT 69 LOT 70 LOT 71 LOT 72 LOT 73 LOT 74 LOT 75 LOT 76 LOT 77 LOT 78 LOT 79 LOT 80 LOT 81 LOT 82 LOT 83 LOT 84 LOT 85 LOT 86 LOT 87 LOT 88 LOT 89 LOT 90 LOT 91 LOT 92 LOT 93 LOT 94 LOT 95 LOT 96 LOT 97 LOT 98 LOT 100 LOT 102 LOT 104 LOT 106 LOT 108 LOT 110 LOT 112 LOT 114 LOT 116 LOT 118 LOT 120 LOT 122 LOT 124 LOT 126

DAVID TOLSMA DRIVE

OLD CANTON ROAD

QUINLAN ROAD

CANTON VALLEY CIRCLE

CANTON SPRING ROAD

DOWD AVENUE

TRAILSEND DRIVE

LAWTON ROAD

LOWELY STREET

ZONING TABLE

DISTRICT	SB
PRINCIPLE USE	COMMERCIAL
MIN. LOT AREA	30,000 SF
MIN. FRONTAGE	100'
MIN. SQUARE	90'
MIN. FRONT YARD	10'
MIN. SIDE YARD	15' 30'
MIN. REAR YARD	15' 50'
MAX. BUILDING COVERAGE	25%
MAX. IMPERVIOUS COVERAGE	50%
MAX. HEIGHT / NUMBER OF STORIES	35' 2.5 STORIES

LEGEND

- APPROXIMATE LIMIT OF FLOODPLAIN
- APPROXIMATE LIMIT OF WETLANDS
- APPROXIMATE PROPERTY LINE
- APPROXIMATE ROAD EDGE
- APPROXIMATE EXISTING PUBLIC WATER SERVICE
- APPROXIMATE EXISTING SANITARY SEWER SERVICE
- APPROXIMATE EXISTING NATURAL GAS SERVICE
- WATER MAIN EXPANSION
- SANITARY SEWER EXPANSION
- NATURAL GAS EXPANSION

ROUTE 44 UTILITY STUDY & EXPANSION

ALBANY TURNPIKE (CT-44)

IN

CANTON
CONNECTICUT

CONCEPTUAL UTILITY EXPANSION

DECEMBER 2017

REVISIONS:

PREPARED FOR:

TOWN OF CANTON
4 MARKET STREET
CANTON, CT 06022

BSC GROUP
300 Winding Brook Drive
Glastonbury, Connecticut 06033
860 652 8227

SCALE: 1" = 250'

0 125 250 500 FEET

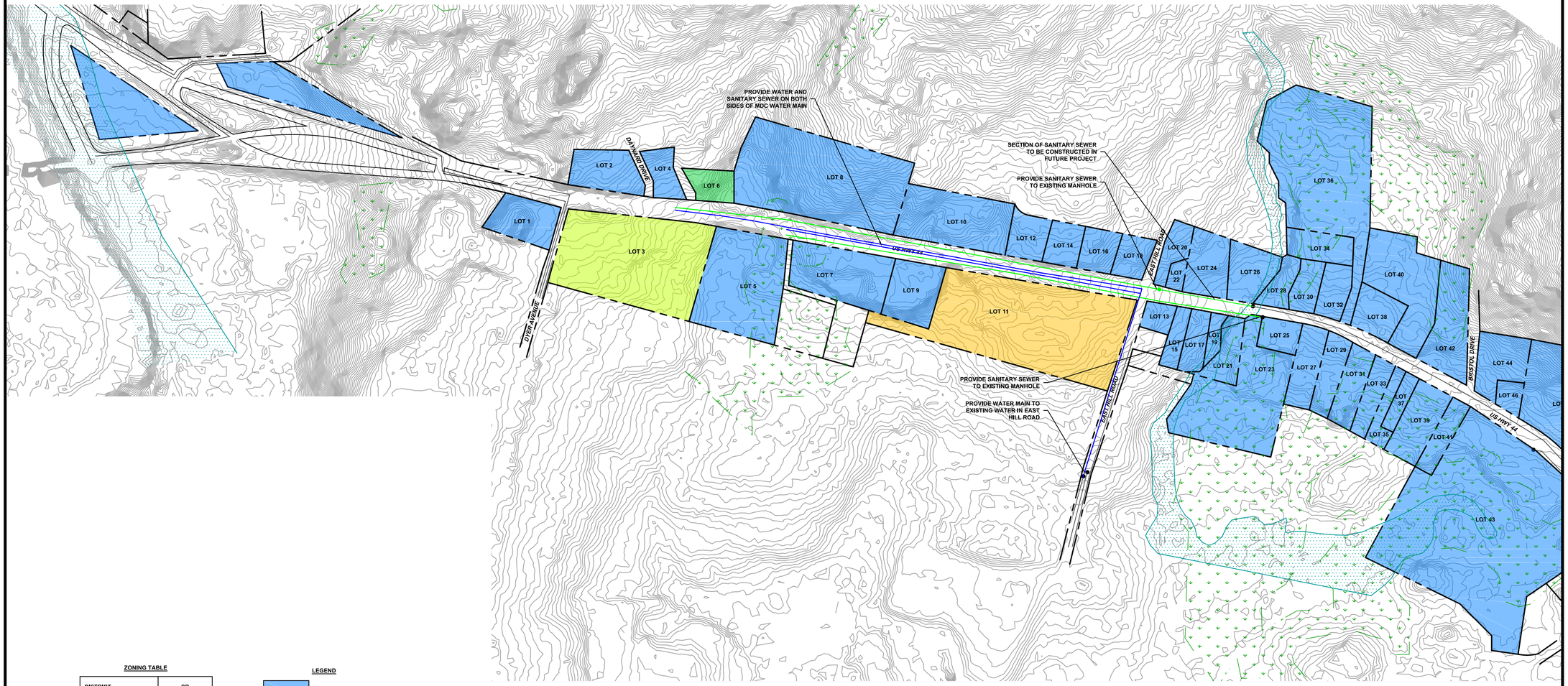
FILE: 8366801-SITE PLAN.DWG

DWG. NO:

JOB. NO: 83668.01

FIGURE 8

ROUTE 44 UTILITY STUDY & EXPANSION - DECEMBER 2017



ZONING TABLE

DISTRICT	SB
PRINCIPLE USE	COMMERCIAL
MIN. LOT AREA	30,000 SF
MIN. FRONTAGE	100'
MIN. SQUARE	90'
MIN. FRONT YARD	10'
MIN. SIDE YARD	15' 30'
MIN. REAR YARD	15' 50'
MAX. BUILDING COVERAGE	25%
MAX. IMPERVIOUS COVERAGE	50%
MAX. HEIGHT / NUMBER OF STORIES	35' 2.5 STORIES

LEGEND

- COMMERCIAL DISTRICT (SB)
- RESIDENTIAL DISTRICT (AR-2)
- MIXED RESIDENTIAL DISTRICT (MR)
- GARDEN APARTMENTS DISTRICT (GA)
- APPROXIMATE LIMIT OF FLOODPLAIN
- APPROXIMATE LIMIT OF WETLANDS
- APPROXIMATE PROPERTY LINE
- APPROXIMATE ROAD EDGE
- APPROXIMATE EXISTING PUBLIC WATER SERVICE
- APPROXIMATE EXISTING SANITARY SEWER SERVICE
- APPROXIMATE EXISTING NATURAL GAS SERVICE

ROUTE 44 UTILITY STUDY & EXPANSION

ALBANY TURNPIKE (CT-44)

IN

CANTON
CONNECTICUT

MAXIMIZED EFFICIENCY UTILITY EXPANSION

DECEMBER 2017

REVISIONS:

PREPARED FOR:
TOWN OF CANTON
4 MARKET STREET
CANTON, CT 06022

BSC GROUP
300 Winding Brook Drive
Glastonbury, Connecticut 06033
860 652 8227

SCALE: 1" = 250'

0 125 250 500 FEET

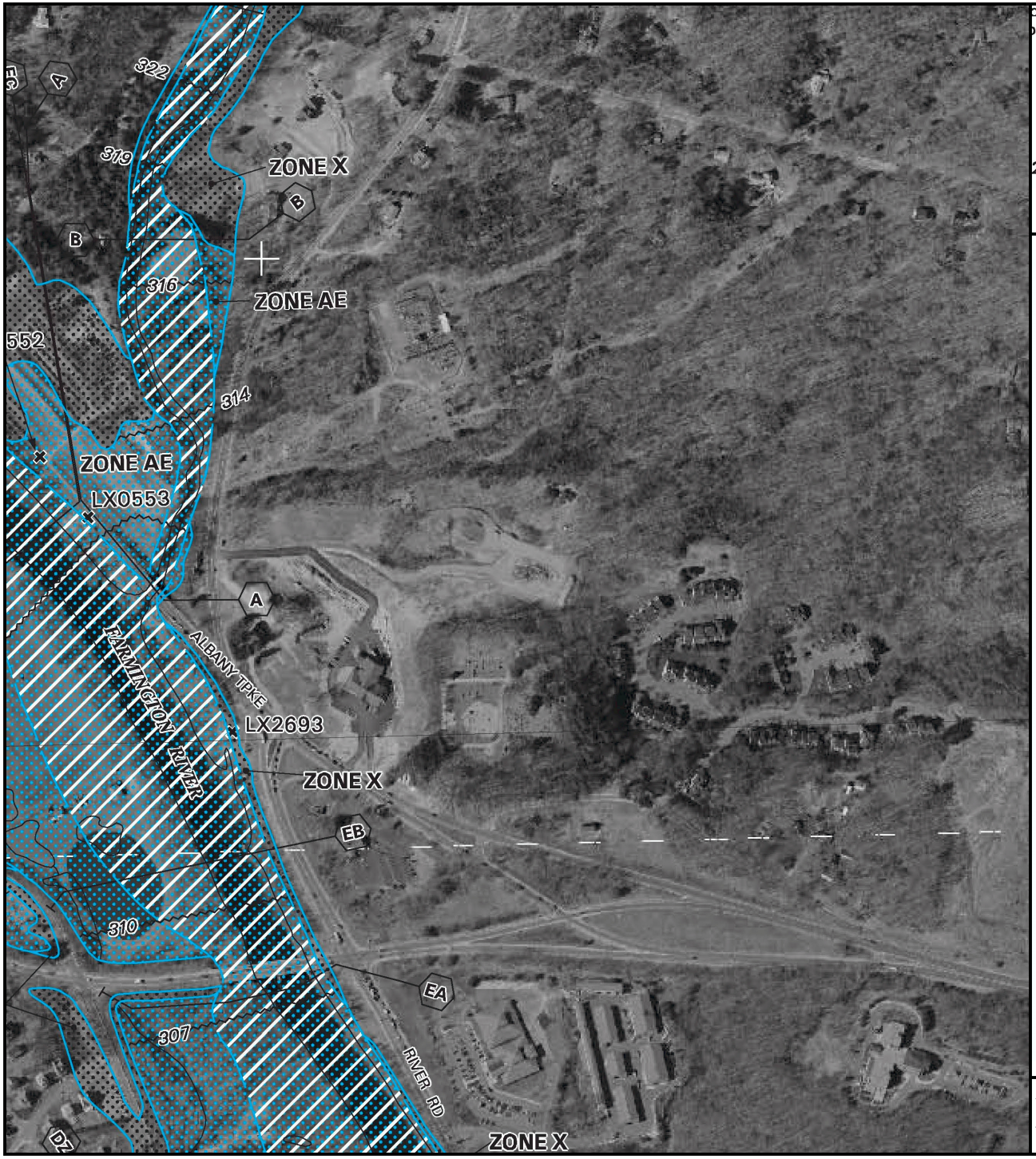
FILE: 8366801-SITE PLAN.DWG

DWG. NO:

JOB. NO: 83668.01

FIGURE 9

APPENDIX A
FEMA FLOOD INSURANCE RATE MAPS



od insurance is available in this community, contact yo
nal Flood Insurance Program at (800) 638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0308F

FIRM

FLOOD INSURANCE RATE MAP

HARTFORD COUNTY,
CONNECTICUT
(ALL JURISDICTIONS)

PANEL 308 OF 675

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CANTON, TOWN OF	090135	0308	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
09003C0308F

EFFECTIVE DATE:
SEPTEMBER 26, 2008

Federal Emergency Management Agency

od insurance is available in this community, contact yo
nal Flood Insurance Program at (800) 638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0308F

FIRM

FLOOD INSURANCE RATE MAP

HARTFORD COUNTY,
CONNECTICUT
(ALL JURISDICTIONS)

PANEL 308 OF 675

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CANTON, TOWN OF	090135	0308	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
09003C0308F

EFFECTIVE DATE:
SEPTEMBER 26, 2008

Federal Emergency Management Agency

od insurance is available in this community, contact yo
onal Flood Insurance Program at (800) 638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0309F

FIRM

FLOOD INSURANCE RATE MAP

HARTFORD COUNTY,
CONNECTICUT
(ALL JURISDICTIONS)

PANEL 309 OF 675

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AVON, TOWN OF	090021	0309	F
CANTON, TOWN OF	090135	0309	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
09003C0309F

EFFECTIVE DATE:
SEPTEMBER 26, 2008

Federal Emergency Management Agency

APPENDIX B

FARMINGTON VALLEY HEALTH DISTRICT PERCOLATION AND TEST PIT DATA

FARMINGTON VALLEY HEALTH DISTRICT

EXISTING SEWAGE DISPOSAL SYSTEM REPAIR EVALUATION

Inspection by Dianne Harding Date 05/24/2005

Owner MacKenzie Management Phone 860-830-8937

Location 59-61 East Hill Road Town Canton

Mailing Address PO Box 360

Town Unionville, CT Zip Code 06085

Licensed Contractor Present? Yes Name SSS/B. Ronan

Existing Septic System: Approximate age of system ??

Septic tank size 1000 gallons. Depth to top of tank 16"

Concrete or Metal Concrete Baffles adequate ??

Probable type of existing leaching field Trenches

Does home have separate laundry/sink system? No

Does home have water treatment system? ?? Type

Method of backwash

Any footing drains, curtain drains, storm drains, watercourses nearby? No

Describe

Distance to well on same property ~75'; adjacent properties ?

Number of bedrooms NA or number of employees <25

Describe type of failure No failure - request for change in use

Suspected reason for failure NA

Soil test results: Percolation Rate: 20-30 minutes/inch

Minimum leaching system spread (Required) 90' Available 90'

Site Limitation (if any)

Recommendations:

1. Maintain 75' from all wells. (Locate well for 321 & 325 Albany Tpke)
2. Abandon septic system for Building #61 East Hill Rd. Also, remove water line to this building.
3. Inspect existing septic tank & baffles for #59. Repair/replace as needed.
4. Install a total of 533 square feet of leaching area.
5. A pump chamber will be necessary in order to reach higher ground & keep system shallow. (If possible, avoid DP 3 area)

Exceptions Required:

CPR-9 Rev. 7/95

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
REAL ESTATE & PROFESSIONAL TRADES DIVISION

WELL DRILLING COMPLETION REPORT

165 Capitol Avenue, Hartford, Connecticut 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER — NAME: John Hinman — ADDRESS: 175 Albany Turnpike Canton Ct. 06019

LOCATION OF WELL — (No. & Street) 175 Albany Turnpike (Town) Canton Ct. (Lot Number)

PROPOSED USE OF WELL — [ ] DOMESTIC [x] BUSINESS ESTABLISHMENT [ ] FARM [ ] TEST WELL [ ] PUBLIC SUPPLY [ ] INDUSTRIAL [ ] AIR CONDITIONING [ ] OTHER (Specify)

DRILLING EQUIPMENT — [ ] ROTARY [x] COMPRESSED AIR PERCUSSION [ ] CABLE PERCUSSION [ ] OTHER (Specify)

CASING DETAILS

LENGTH (feet)	DIAMETER (inches)	WEIGHT PER FOOT			DRIVE SHOE	WAS CASING GROUTED?
63	6	17B	[x] THREADED	[ ] WELDED	[x] YES [ ] NO	[x] YES [ ] NO

YIELD TEST — [ ] BAILED [ ] PUMPED [x] COMPRESSED AIR — HOURS: 4 — YIELD (GPM): 30

WATER LEVEL — MEASURE FROM LAND SURFACE - STATIC (Specify feet): 20 — DURING YIELD TEST (feet): — Depth of Completed Well in feet: 65 Ft.

SCREEN DETAILS — MAKE: — LENGTH OPEN TO AQUIFER (feet):

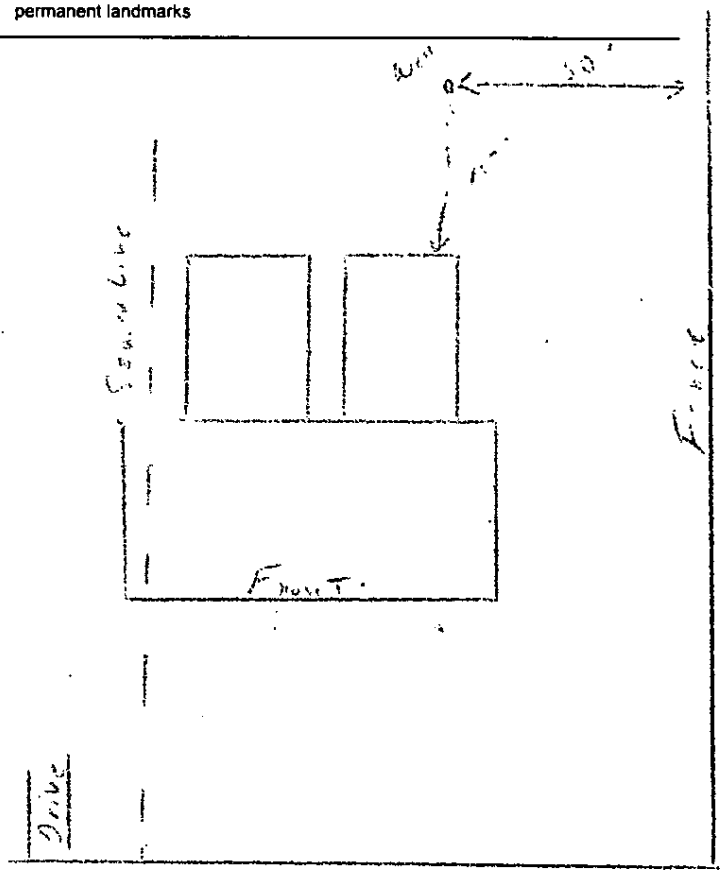
SLOT SIZE	DIAMETER (inches)	IF GRAVEL PACKED:	Diameter of well including gravel pack (inches)	GRAVEL SIZE (inches)	FROM (feet)	TO (feet)

DEPTH FROM LAND TO SURFACE FEET TO FEET		FORMATION DESCRIPTION
0	60	Sand
60	65	Gravel

If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

Sketch exact location of well with distances, to at least two permanent landmarks



DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
4/13/99	191603	28	4/13/99	

LOCAL DIRECTOR OF HEALTH

WELL COMPLETION REPORT

CPR-9 REV. 11-82

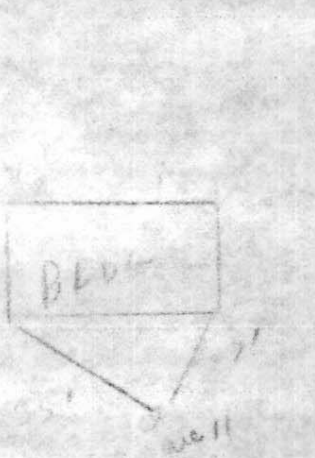
STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
WELL DRILLING BOARD
165 CAPITOL AVE.
HARTFORD, CONNECTICUT 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER	NAME: ROBERT CIRILLI	ADDRESS: 261 ALBANY TURNPIKE, CANTON, CONN.	
LOCATION OF WELL	(No. & Street): ALBANY TURNPIKE, CANTON, CONN.	(Town)	(Lot Number): 200
PROPOSED USE OF WELL	[XX] DOMESTIC; [ ] BUSINESS ESTABLISHMENT; [ ] FARM; [ ] TEST WELL; [ ] PUBLIC SUPPLY; [ ] INDUSTRIAL; [ ] AIR CONDITIONING; [ ] OTHER (Specify)		
DRILLING EQUIPMENT	[X] ROTARY; [ ] COMPRESSED AIR PERCUSSION; [ ] CABLE PERCUSSION; [ ] OTHER (Specify)		
CASING DETAILS	LENGTH (feet): 60 feet; DIAMETER (inches): 6 in.; WEIGHT PER FOOT: 17 lbs.; [ ] THREADED [X] WELDED; DRIVE SHOE [X] YES [ ] NO; WAS CASING GROUTED? [X] YES [ ] NO		
YIELD TEST	[ ] BAILED; [ ] PUMPED; [XX] COMPRESSED AIR; HOURS: 4 HOURS; YIELD (G.P.M.): 8 gallons		
WATER LEVEL	MEASURE FROM LAND SURFACE—STATIC (Specify feet): WATER LEVEL20 FEET; DURING YIELD TEST (feet): 300 feet; Depth of Completed Well in feet below Land surface: 300 feet		
SCREEN DETAILS	MAKE; LENGTH OPEN TO AQUIFER (feet); SLOT SIZE; DIAMETER (inches); IF GRAVEL PACKED:; Diameter of well including gravel pack (inches):; GRAVEL SIZE (inches); FROM (feet); TO (feet)		

DEPTH FROM LAND SURFACE FEET TO FEET		FORMATION DESCRIPTION
0	55	DIRT
56	300	GRANITE

Sketch exact location of well with distances, to at least two permanent landmarks.



If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
1/19/88	127807	60	1/19/88	George Ferlo

LOCAL DIRECTOR OF HEALTH

WELL COMPLETION REPORT

WDB-[redacted] 9-71

STATE OF CONNECTICUT
WELL DRILLING BOARD
State Office Building
HARTFORD, CONNECTICUT 06115

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER — NAME: Pinewood Furniture Shop. ADDRESS: 115 Kirkwood Rd.

LOCATION OF WELL — (No. & Street): 225/227 Albany Turnpike (Town): CANTON (Lot Number): CT

PROPOSED USE OF WELL
- [X] DOMESTIC
- [ ] BUSINESS ESTABLISHMENT
- [ ] FARM
- [ ] TEST WELL
- [ ] PUBLIC SUPPLY
- [ ] INDUSTRIAL
- [ ] AIR CONDITIONING
- [ ] OTHER (Specify)

DRILLING EQUIPMENT
- [ ] ROTARY
- [X] COMPRESSED AIR PERCUSSION
- [ ] CABLE PERCUSSION
- [ ] OTHER (Specify)

CASING DETAILS

LENGTH (feet)	DIAMETER (inches)	WEIGHT PER FOOT			DRIVE SHOE	WAS CASING GROUTED?
30	6	17	[X] THREADED	[X] WELDED	[X] YES [ ] NO	[ ] YES [X] NO

YIELD TEST — [ ] BAILED [ ] PUMPED [X] COMPRESSED AIR — HOURS: 2 — YIELD (G.P.M.): 16

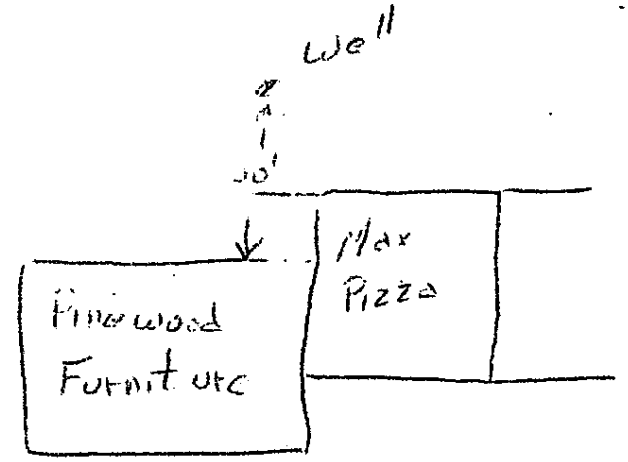
WATER LEVEL — MEASURE FROM LAND SURFACE–STATIC (Specify feet): 27 — DURING YIELD TEST (feet): 148 — Depth of Completed Well in feet below Land surface: 150

SCREEN DETAILS — MAKE: — LENGTH OPEN TO AQUIFER (feet):

SLOT SIZE	DIAMETER (inches)	IF GRAVEL PACKED:	Diameter of well including gravel pack (inches):	GRAVEL SIZE (inches)	FROM (feet)	TO (feet)

DEPTH FROM LAND SURFACE FEET	to FEET	FORMATION DESCRIPTION
0	4	Sand, Clay & boulders
4	54	Granite
54	60	Brown Rock
60	150	Granite

Sketch exact location of well with distances, to at least two permanent landmarks.



Rt 44 - Albany Tpke

If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE
54-60	1/5 Trace
75	10
100	16

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
10/28/78	16429	69	11/31/78	Francis Douglas Jr.

LOCAL DIRECTOR OF HEALTH

WELL COMPLETION REPORT

CPR-9 REV. 11-82

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
WELL DRILLING BOARD
165 CAPITOL AVE.
HARTFORD, CONNECTICUT 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER — NAME: CANTONVILLAGE (HENRY BAHRE) — ADDRESS: ROUTE 44, CANTON, CONN. 06019

LOCATION OF WELL — (No. & Street): ROUTE 44, CANTON, CONN. — (Town) — (Lot Number)

PROPOSED USE OF WELL
- [ ] DOMESTIC
- [X] BUSINESS ESTABLISHMENT
- [ ] FARM
- [ ] TEST WELL
- [ ] PUBLIC SUPPLY
- [ ] INDUSTRIAL
- [ ] AIR CONDITIONING
- [ ] OTHER (Specify)

DRILLING EQUIPMENT
- [X] ROTARY
- [ ] COMPRESSED AIR PERCUSSION
- [ ] CABLE PERCUSSION
- [ ] OTHER (Specify)

CASING DETAILS

LENGTH (feet)	DIAMETER (inches)	WEIGHT PER FOOT			DRIVE SHOE		WAS CASING GROUTED?	
20 feet	6 in.	17 lbs.	[X] THREADED	[ ] WELDED	[X] YES	[ ] NO	[X] YES	[ ] NO

YIELD TEST
- [ ] BAILED
- [ ] PUMPED
- [XX] COMPRESSED AIR

HOURS: 4 HOURS — YIELD (G.P.M.): 20 gallons

WATER LEVEL

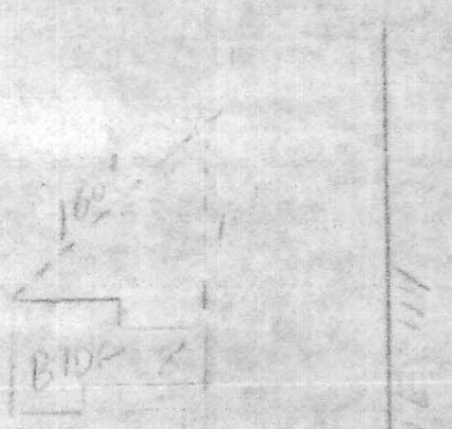
MEASURE FROM LAND SURFACE—STATIC (Specify feet)	DURING YIELD TEST (feet)	Depth of Completed Well in feet below Land surface:
water level 20 feet	200 feet	200 feet

SCREEN DETAILS

MAKE					LENGTH OPEN TO AQUIFER (feet)	
SLOT SIZE	DIAMETER (inches)	IF GRAVEL PACKED:	Diameter of well including gravel pack (inches):	GRAVEL SIZE (inches)	FROM (feet)	TO (feet

DEPTH FROM LAND SURFACE FEET TO FEET		FORMATION DESCRIPTION
0	5	DIRT
6	200	GRANITE

Sketch exact location of well with distances, to at least two permanent landmarks.



If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
7/1/88	131047	60	7/1/88	

LOCAL DIRECTOR OF HEALTH

WELL COMPLETION REPORT

WDB-5 12-69 REV. 9-71

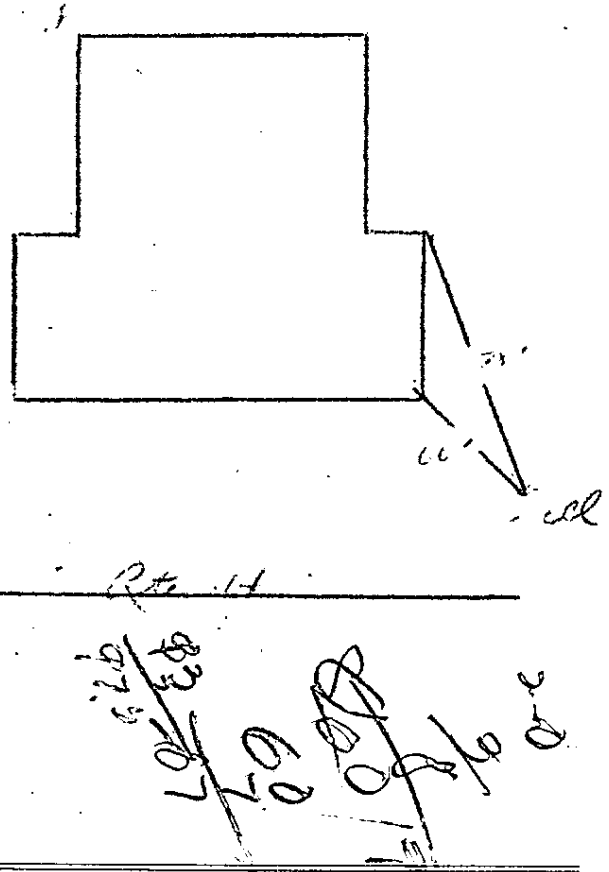
STATE OF CONNECTICUT
WELL DRILLING BOARD
State Office Building
HARTFORD, CONNECTICUT 06115

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER	NAME: Mr. Robert Wolstencroft	ADDRESS: Box 46, Granby, Ct. 06035	
LOCATION OF WELL	(No. & Street): Rte. 44	(Town): Canton	(Lot Number): 244
PROPOSED USE OF WELL	☒ DOMESTIC ☐ BUSINESS ESTABLISHMENT ☐ FARM ☐ TEST WELL ☐ PUBLIC SUPPLY ☐ INDUSTRIAL ☐ AIR CONDITIONING ☐ OTHER (Specify)		
DRILLING EQUIPMENT	☒ ROTARY ☐ COMPRESSED AIR PERCUSSION ☐ CABLE PERCUSSION ☐ OTHER (Specify)		
CASING DETAILS	LENGTH (feet): 43 · DIAMETER (inches): 6 · WEIGHT PER FOOT: 17 lbs. · ☒ THREADED ☐ WELDED · DRIVE SHOE ☐ YES ☒ NO · WAS CASING GROUTED? ☒ YES ☐ NO		
YIELD TEST	☐ BAILED ☐ PUMPED ☒ COMPRESSED AIR · HOURS: 4 · YIELD (G.P.M.): 30 g.p.m.		
WATER LEVEL	MEASURE FROM LAND SURFACE—STATIC (Specify feet): 10 ft. · DURING YIELD TEST (feet): 40 ft. · Depth of Completed Well in feet below Land surface: 45 ft.		
SCREEN DETAILS	MAKE · LENGTH OPEN TO AQUIFER (feet)		
	SLOT SIZE · DIAMETER (inches) · IF GRAVEL PACKED: · Diameter of well including gravel pack (inches): · GRAVEL SIZE (inches) · FROM (feet) · TO (feet)		

DEPTH FROM LAND SURFACE FEET to FEET		FORMATION DESCRIPTION
0	10	sand and big boulders
10	34	gravel and small boulders
34	45	granite

Sketch exact location of well with distances, to at least two permanent landmarks.



If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
8/6/74	24931	42	8/9/74	H & B Well Drilling, Inc.

CPR-9 Rev. 7/95

RECEIVED
DEC 1 0 2012
FVHD

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
REAL ESTATE & PROFESSIONAL TRADES DIVISION
WELL DRILLING COMPLETION REPORT
165 Capitol Avenue, Hartford, Connecticut 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER — NAME: Collinsville Savings Society (Castle Corp) — ADDRESS:

LOCATION OF WELL — (No. & Street): Albany Turnpike — (Town): Canton — (Lot Number): 27 — Well #2.

PROPOSED USE OF WELL
- [X] DOMESTIC
- [ ] BUSINESS ESTABLISHMENT
- [ ] FARM
- [ ] TEST WELL
- [ ] PUBLIC SUPPLY
- [ ] INDUSTRIAL
- [ ] AIR CONDITIONING
- [ ] OTHER (Specify)

DRILLING EQUIPMENT
- [ ] ROTARY
- [X] COMPRESSED AIR PERCUSSION
- [ ] CABLE PERCUSSION
- [X] OTHER (Specify) Bank

CASING DETAILS

LENGTH (feet)	DIAMETER (inches)	WEIGHT PER FOOT			DRIVE SHOE	WAS CASING GROUTED?
20'	6"	17 16	[X] THREADED	[ ] WELDED	[X] YES [ ] NO	[X] YES [ ] NO

YIELD TEST

			HOURS	YIELD (GPM)
[ ] BAILED	[ ] PUMPED	[X] COMPRESSED AIR	4	1.25 gpms.

WATER LEVEL

MEASURE FROM LAND SURFACE - STATIC (Specify feet)	DURING YIELD TEST (feet)	Depth of Completed Well in feet
10'	800'	805'

SCREEN DETAILS

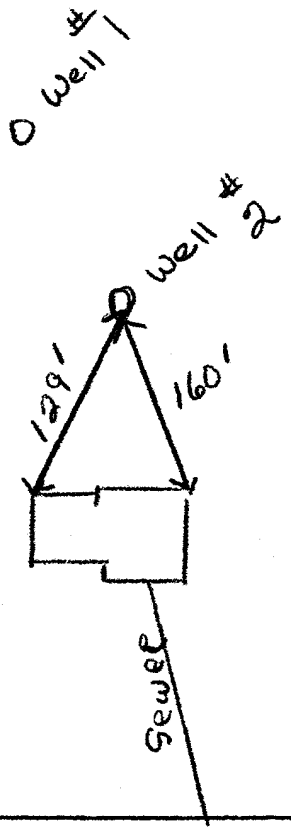
MAKE					LENGTH OPEN TO AQUIFER (feet)	
SLOT SIZE	DIAMETER (inches)	IF GRAVEL PACKED	Diameter of well including gravel pack (inches)	GRAVEL SIZE (inches)	FROM (feet)	TO (feet)

DEPTH FROM LAND TO SURFACE FEET TO FEET		FORMATION DESCRIPTION
0'	2	Sand
2'	100'	Corey Granite
100'	140'	Green Granite
140	180	White Granite
180'	220	Corey Granite
~~220~~	260	Blue Granite
260	320	Green Granite
320	340	Corey Granite
340'	400'	White Granite
400	460'	Corey Granite
460	540	Green Granite
540	600	Blue Granite
600	680	Corey Granite
680	740	White Granite
740	805	Corey Granite

If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE
805'	1.25 gpms.

Sketch exact location of well with distances, to at least two permanent landmarks



DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
11-11-04	224206	46	11-11-04	

LOCAL DIRECTOR OF HEALTH

BUCK & BUCK, LLC

ENGINEERS

98 WADSWORTH STREET, HARTFORD, CONNECTICUT 06106
TELEPHONE 860-527-2677
FAX 860-527-7100

JAMES A. THOMPSON
LAWRENCE F. BUCK
WILLIAM B. ASTON
DOUGLAS E. ELLIS
GREGORY B. HUNT

HENRY WOLCOTT BUCK
1931-1965
ROBINSON D. BUCK
1935-1959
ROBINSON W. BUCK

Comm. 8229-3

April 21, 2005

Ms. Suzanne Friedman
Department of Public Utility Control
State of Connecticut
10 Franklin Avenue
New Britain, CT 06051

Re: Collinsville Savings Society
Water Supply System
DPUC Docket No. 04-06-10

Dear Ms. Friedman:

On behalf of the Collinsville Savings Society, I submit this request to close the DPUC Docket set up for the referenced water system. The Collinsville Savings Society has filed a restrictive covenant, with the Town of Canton, which restricts the population of the property so it is not a public water system as defined in Section 19-13-B102 of the State Public Health Code. A copy of the Restrictive Covenant and the letter from the State Department of Public Health, stating that the system is reclassified as a private water system, is enclosed for your convenience.

Please forward copies of any letters to Buck & Buck LLC so we can be informed of the status of the Docket.

Sincerely yours,
Buck & Buck, LLC

Gregory B. Hunt

RECEIVED
APR 25 2005
Farmington Valley Health District

GBH\8229-3 DPUC 4-21-05
Enclosure

cc: John Burger, Casle
John Czaja, CT Dept. of Public Health
Dianne Harding, Farmington Valley Health District

RESTATED DECLARATION OF RESTRICTIVE COVENANT

COLLINSVILLE SAVINGS SOCIETY, a Connecticut banking corporation with an office at 250 Albany Turnpike, Canton, CT 06019 ("CSS"), as owner of that certain improved parcel of real property known as 277 Albany Turnpike, Canton, Connecticut as further described on **Schedule A** attached hereto and made a part hereof ("Property") now declares as follows:

STATEMENT OF FACTS

The Property is served by a private water supply that does not meet the current State of Connecticut requirements for buildings containing 25 or more persons. On March 15, 2005 CSS executed a Declaration of Restrictive Covenant as recorded on the Canton Land Records in Volume 324, Page 167 ("Declaration"). CSS now desires to restate the Declaration.

NOW THEREFORE, the Property, and the use thereof, is now, and shall hereafter be, subject to a restriction prohibiting CSS, as owner, and all other tenants, subtenants and other occupants of the Property, if any, from meeting the definition of any of the following water systems as described in Section 19-13-B102(a) of the Public Health Code of the State of Connecticut

(7) "Community Water System" means a public water system that serves at least twenty-five (25) residents throughout the year.

(43) "Non-Community Water System" means a public water system that serves at least twenty-five (25) persons at least sixty (60) days out of the year and is not a community or a seasonal water system.

(44) "Non-Transient Non-Community Water System" (NTNC) means a public water system that is not a community system and that regularly serves at least twenty-five (25) of the same persons over six (6) months per year.

(51) "Public Water System" or "System" means any water company supplying water to fifteen (15) or more consumers or twenty-five (25) or more persons, based on the "Design Population" as defined in Section 16-262m-8(a) (3) of the regulations of Connecticut State Agencies, jointly administered by the department and the Department of Public Utility Control, daily at least sixty days (60) of the year.

(73) "Transient Non-Community Water System" means a non-community water system that does not meet the definition of a non-transient non-community water system.

Until the first to occur of: (a) connection of the building on the Property to a public water supply; or (b) CSS obtains a "Certificate of Public Convenience and Necessity for Small Water Companies" as issued by the State of Connecticut Department of Public Utility Control and the State Department of Public Health or other water system certification that may be implemented in the future.

This Declaration shall be deemed a covenant running with the land binding upon CSS and its successors and assigns as the owner of the Property until discharged as set forth above.

Signed this 4th day of April 2005.

Witnessed by:

COLLINSVILLE SAVINGS SOCIETY

Name:

By
Dennis T. Cardello
Its President

Name:

STATE OF CONNECTICUT)
) ss Canton
COUNTY OF HARTFORD)

The foregoing instrument was acknowledged before me this 4th day of April 2005 by Dennis T. Cardello, President of Collinsville Savings Society, a Connecticut banking corporation, on behalf of the corporation.

Notary Public
My commission expires:

DOREEN A. CASELLA
NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 30, 2008

(73) "Transient Non-Community Water System" means a non-community water system that does not meet the definition of a non-transient non-community water system.

(51) "Public Water System" or "System" means any water company supplying water to fifteen (15) or more consumers or twenty-five (25) or more persons, based on the "Design Population" as defined in Section 16-262m-8(a) (3) of the regulations of Connecticut State Agencies, jointly administered by the department and the Department of Public Utility Control, daily at least sixty days (60) of the year.

(43) "Non-Community Water System" means a public water system that serves at least twenty-five (25) persons at least sixty (60) days out of the year and is not a community or a seasonal water system.

(44) "Non-Transient Non-Community Water System" (NTNC) means a public water system that is not a community system and that regularly serves at least twenty-five (25) of the same persons over six (6) months per year.

(7) "Community Water System" means a public water system that serves at least twenty-five (25) residents throughout the year.

SCHEDULE A

Commencing at a point which marks the southeasterly corner of the herein described parcel and which point marks the intersection of the northerly highway line of U.S. Route 44 with the westerly street line of Bristol Drive;

Thence running N-56°-33'-23"-W, along the northerly highway line of U.S. Route 44, 255.30' to a CHD monument;

Thence continuing along the northerly street line of U.S. Route 44, N-56°-35'-27"-W 1.53' to a point which marks the southwesterly corner of the parcel herein described and the southeasterly corner of Raymond P. & Shirley B. Bussolini;

Thence running N-30°-48'-08"-E, along said Bussolini, 195.34' to a 1" iron pin;

Thence running N-09°-59'-13"-E, along said Bussolini, 305.12' to a 1'iron pin, which marks the northwesterly corner of the parcel herein described;

Thence running S-83°-36'-46"-E, along Robert H. & Karen I. Hackbarth, 131.46' to a 1" iron pin which marks the northeasterly corner of the parcel herein described;

Thence running S-07°-10'-39"-E, along said Hackbarth, 104.20' to the base of bent 1/2" iron pipe, set in the westerly street line of Bristol Drive;

Thence running S-17°-09'-20"-W along said westerly street line of Bristol Drive, 52.03' to a drill hole;

Thence running along the said westerly street line of Bristol Drive, along a curve to the left with a radius of 176.82', a distance of 80.24' to a point;

Thence running along the said westerly street line of Bristol Drive, along a curve to the right, with a radius of 244.78'; a distance of 89.72' and a chord bearing of S-01°-17'-13"-W, and a chord distance of 89.22' to a point;

Thence running S-12°-12'-28"-W, along said westerly street line of Bristol Drive, 279.88' to a point, which marks the point or place of beginning.

Herein described parcel is more particularly depicted on a map entitled,"Topographic Survey Land of David E. & Joan A. Ritger Prepared For Collinsville Savings Society 277 Albany Turnpike Canton, Connecticut Scale 1"=20' Nov. 2003 Sheet 1 of 1" Nascimbeni & Jahne Surveyors PC

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

April 13, 2005

Dennis Cardello
136 Main Street
Collinsville, CT 06019

RE: Collinsville Savings Society, Canton
DPUC Docket No. 04-06-10

Dear Mr. Cardello:

The Collinsville Savings Society was initially proposed to comprise a building defined as a Public Water System (PWS) and subject to requirements of Section 16-262m of the Regulations of Connecticut State Agencies (RCSA) for which an application was submitted and a Department of Public Utility Control (DPUC) Docket was set up. Per the file record, it was an option that this building could have been provided water service from Connecticut Water Company, however, it was determined that a satellite water system was to be pursued and the Upper Connecticut River Utility Coordinating Committee (WUCC) voted and approved the creation of the proposed new system. For the record, the Department of Public Health (DPH) had recommended and would rather have seen a water main extension go in verses a satellite system to better provide water service the Collinsville Savings Society and other small and private water systems in this built up area and not see another PWS be constructed.

The DPH issued well site approvals for two wells on the property. The two wells were drilled but apparently had very low or no yield when yield tests were conducted according to conversations with Buck & Buck, LLC. Documentation on yield results or water quality for these wells were not forwarded to the DPH for review. It was however apparently determined by you and your consultant that wells would not have adequate yield to meet regulatory requirements and other wells were not being pursued on this property, resulting in the proposal to deed restrict the property so it would not be a PWS subject to the DPH/DPUC design requirements.

The DPH has received a letter from your consultant Buck & Buck, LLC, dated 4/6/05, with a Declaration of Restrictive Covenant filed with the Town of Canton on 4/4/05. The Declaration identifies and restricts the population for the property on which the Collinsville Savings Society was constructed so that it is not a PWS as defined in Section 19-13-B102 of the RCSA.

(860) 509-7333

Phone:
Telephone Device for the Deaf: (860) 509-7191
410 Capitol Avenue - MS #51WAT
P.O. Box 340308 Hartford, CT 06134

In conclusion, the Declaration reclassifies the property to a private water supply subject to local Town of Canton/Farmington Valley Health District requirements and is no longer a proposed PWS, therefore not subject to DPH requirements.

The DPH cannot close the DPUC Docket set up for the proposed system since it is joint process with the DPH. The DPH is recommending by copy of this correspondence to the DPUC that the Docket be closed, however, you must seek this closure directly with the DPUC.

If you have any questions, please do not hesitate to call.

Sincerely,

John W. Czaja
Sanitary Engineer 3
Drinking Water Division

jc s:\engineeringunit\jczaja\letters\collinsvillesavingssociety

cc: Gregory B. Hunt, Buck & Buck, LLC
DOH, Farmington Area Health District
DWD, Compliance Section
Executive Secretary, DPUC
Gilbert J. Bligh, New Britain Water Department
Reed Reynolds, Connecticut Water Company

WELL COMPLETION REPORT

WBB-5 12-69 REV. 9-71

STATE OF CONNECTICUT
WELL DRILLING BOARD
State Office Building
HARTFORD, CONNECTICUT 06115

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER	NAME Kelley Greene		ADDRESS Rte #44 Canton Ct.	
LOCATION OF WELL	(No. & Street) Rte #44 315 Albany Turnpike		(Town) Canton	(Lot Number)
PROPOSED USE OF WELL	☒ DOMESTIC	☐ BUSINESS ESTABLISHMENT	☐ FARM	☐ TEST WELL
	☐ PUBLIC SUPPLY	☐ INDUSTRIAL	☐ AIR CONDITIONING	☐ OTHER (Specify)
DRILLING EQUIPMENT	☐ ROTARY	☒ COMPRESSED AIR PERCUSSION	☐ CABLE PERCUSSION	☐ OTHER (Specify)

CASING DETAILS	LENGTH (feet)	DIAMETER (inches)	WEIGHT PER FOOT			DRIVE SHOE		WAS CASING GROUTED?	
	40	6	17	☒ THREADED	☒ WELDED	☒ YES	☐ NO	☐ YES	☒ NO

YIELD TEST				HOURS	YIELD (G.P.M.)
	☐ BAILED	☐ PUMPED	☒ COMPRESSED AIR	4 +	30

WATER LEVEL	MEASURE FROM LAND SURFACE—STATIC (Specify feet)	DURING YIELD TEST (feet)	Depth of Completed Well in feet below Land surface:
	28	148	150

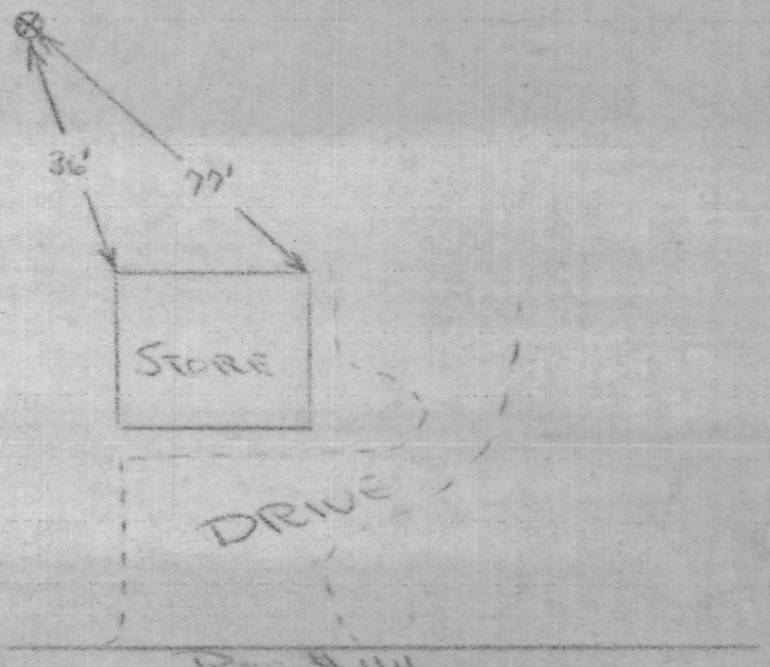
SCREEN DETAILS	MAKE				LENGTH OPEN TO AQUIFER (feet)	
	SLOT SIZE	DIAMETER (inches)	IF GRAVEL PACKED: Diameter of well including gravel pack (inches):	GRAVEL SIZE (inches)	FROM (feet)	TO (feet)

DEPTH FROM LAND SURFACE FEET	to FEET	FORMATION DESCRIPTION
0	8	Gravel + Boulders
8	26	Granite
26	40	"
40	50	"
50	75	"
75	100	"
100	125	"
125	150	"

If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE
75	1
100	2
125	3+
150	3+

Sketch exact location of well with distances, to at least two permanent landmarks.



DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
11-28-75	32221	C9	12-2-75	Prince Drilling Inc.

LOCAL DIRECTOR OF HEALTH

CPR-9 Rev. 7/95

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
REAL ESTATE & PROFESSIONAL TRADES DIVISION

WELL DRILLING COMPLETION REPORT

165 Capitol Avenue, Hartford, Connecticut 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER	NAME: A & M DEVELOPMENT	ADDRESS: 30 NO. EAST INDUSTRIAL DR., BRANFORD, CT 06405
LOCATION OF WELL	(No. & Street): 315 ALBANY AVE. (Town): CANTON (Lot Number):	

PROPOSED USE OF WELL: ☐ DOMESTIC ☒ BUSINESS ESTABLISHMENT ☐ FARM ☐ TEST WELL ☐ PUBLIC SUPPLY ☐ INDUSTRIAL ☐ AIR CONDITIONING ☐ OTHER (Specify)

DRILLING EQUIPMENT: ☒ ROTARY ☒ COMPRESSED AIR PERCUSSION ☐ CABLE PERCUSSION ☐ OTHER (Specify)

CASING DETAILS

LENGTH (feet)	DIAMETER (inches)	WEIGHT PER FOOT			DRIVE SHOE	WAS CASING GROUTED?
40	6	17#	☒ THREADED	☐ WELDED	☒ YES ☐ NO	☒ YES ☐ NO

YIELD TEST: ☒ BAILED ☐ PUMPED ☒ COMPRESSED AIR — HOURS: 4 — YIELD (GPM): 3

WATER LEVEL

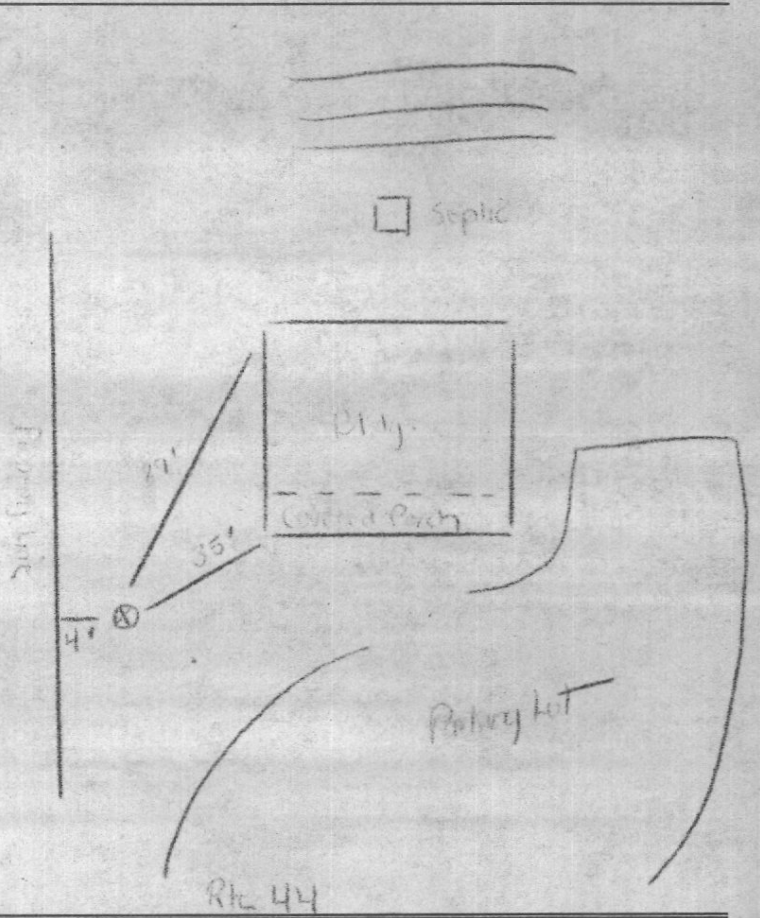
MEASURE FROM LAND SURFACE - STATIC (Specify feet)	DURING YIELD TEST (feet)	Depth of Completed Well in feet
5	525	525

SCREEN DETAILS

MAKE					LENGTH OPEN TO AQUIFER (feet)	
SLOT SIZE	DIAMETER (inches)	IF GRAVEL PACKED:	Diameter of well including gravel pack (inches)	GRAVEL SIZE (inches)	FROM (feet)	TO (feet)

DEPTH FROM LAND TO SURFACE FEET TO FEET		FORMATION DESCRIPTION
0	8	SAND & GRAVEL
8	525	GRANITE

Sketch exact location of well with distances, to at least two permanent landmarks



RECEIVED
MAY 03 2002
Farmington Valley Health District

If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
4/24/02	211542	102	5/1/02	JOHN M. DUFFORD III

LOCAL DIRECTOR OF HEALTH

CPR-9 Rev. 7/95

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
REAL ESTATE & PROFESSIONAL TRADES DIVISION

WELL DRILLING COMPLETION REPORT

165 Capitol Avenue, Hartford, Connecticut 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER — NAME: ATLAS FENCE (A&M DEVELOPMENT) — ADDRESS: 30 NO EAST INDUSTRIAL DRIVE BRANFORD, CT 06405

LOCATION OF WELL — (No. & Street): 315 ALBANY AVE. — (Town): CANTON — (Lot Number):

PROPOSED USE OF WELL — [ ] DOMESTIC [X] BUSINESS ESTABLISHMENT [ ] FARM [ ] TEST WELL — ABANDON WELL
[ ] PUBLIC SUPPLY [ ] INDUSTRIAL [ ] AIR CONDITIONING [ ] OTHER (Specify)

DRILLING EQUIPMENT — [ ] ROTARY [ ] COMPRESSED AIR PERCUSSION [ ] CABLE PERCUSSION [ ] OTHER (Specify)

CASING DETAILS

LENGTH (feet)	DIAMETER (inches)	WEIGHT PER FOOT		DRIVE SHOE	WAS CASING GROUTED?
			[ ] THREADED [ ] WELDED	[ ] YES [ ] NO	[ ] YES [ ] NO

YIELD TEST — [ ] BAILED [ ] PUMPED [ ] COMPRESSED AIR — HOURS: — YIELD (GPM):

WATER LEVEL — MEASURE FROM LAND SURFACE - STATIC (Specify feet): — DURING YIELD TEST (feet): — Depth of Completed Well in feet:

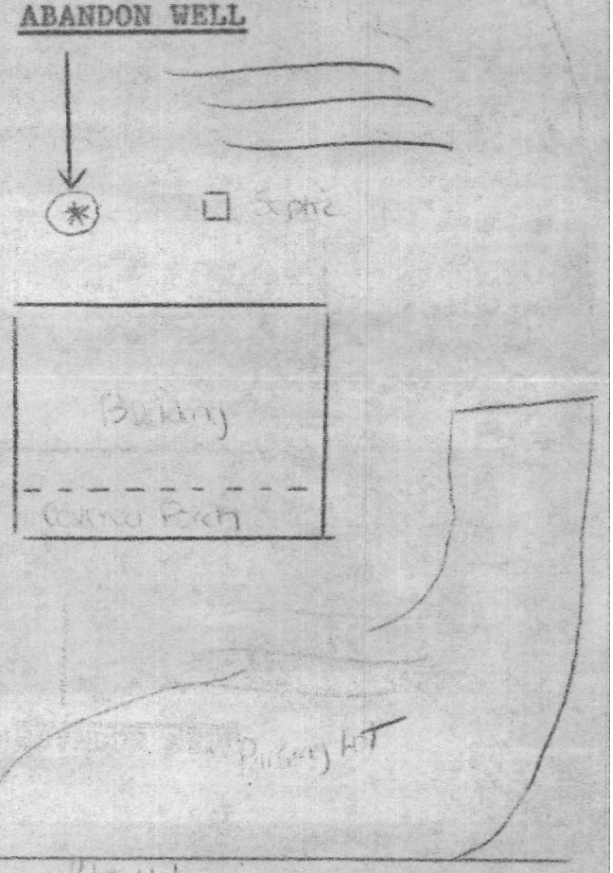
SCREEN DETAILS — MAKE: — LENGTH OPEN TO AQUIFER (feet):

SLOT SIZE	DIAMETER (inches)	IF GRAVEL PACKED	Diameter of well including gravel pack (inches)	GRAVEL SIZE (inches)	FROM (feet)	TO (feet)

DEPTH FROM LAND TO SURFACE FEET TO FEET		FORMATION DESCRIPTION

RECEIVED
APR 22 2002
Farmington Valley Health District

Sketch exact location of well with distances, to at least two permanent landmarks



If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
4/11/02	211542	102	4/18/02	JOHN M. DUFFORD

LOCAL DIRECTOR OF HEALTH

WELL COMPLETION REPORT

CPR-9 REV. 11-82

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
WELL DRILLING BOARD
165 CAPITOL AVE.
HARTFORD, CONNECTICUT 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

RECEIVED
SEP 20 1990
FARMINGTON VALLEY HEALTH DISTRICT

OWNER	NAME: Chang K Yu	ADDRESS: 4 Tanglewood Tr. Simsbury Ct.	
LOCATION OF WELL	(No. & Street): 345 Albany Tpke.	(Town): Canton Ct.	

PROPOSED USE OF WELL: ☐ DOMESTIC ☒ BUSINESS ESTABLISHMENT ☐ FARM ☐ TEST WELL; ☒ PUBLIC SUPPLY ☐ INDUSTRIAL ☐ AIR CONDITIONING ☐ OTHER (Specify)

DRILLING EQUIPMENT: ☐ ROTARY ☒ COMPRESSED AIR PERCUSSION ☐ CABLE PERCUSSION ☐ OTHER (Specify)

CASING DETAILS: LENGTH (feet): 21 | DIAMETER (inches): 6 | WEIGHT PER FOOT: 17 | ☒ THREADED ☐ WELDED | DRIVE SHOE: XX YES ☐ NO | WAS CASING GROUTED?: XX YES ☐ NO

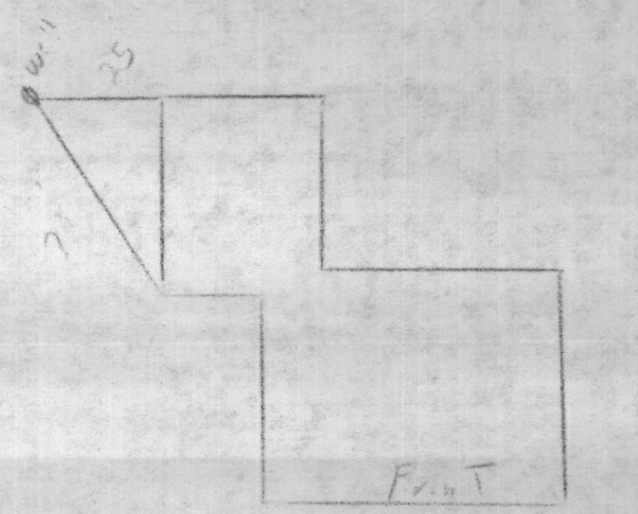
YIELD TEST: ☐ BAILED ☐ PUMPED ☒ COMPRESSED AIR | HOURS: 2 | YIELD (G.P.M.): 8

WATER LEVEL: MEASURE FROM LAND SURFACE—STATIC (Specify feet): 30 | DURING YIELD TEST (feet): | Depth of Completed Well in feet below Land surface: 300

SCREEN DETAILS: MAKE | LENGTH OPEN TO AQUIFER (feet) | SLOT SIZE | DIAMETER (inches) | IF GRAVEL PACKED: | Diameter of well including gravel pack (inches): | GRAVEL SIZE (inches) | FROM (feet) | TO (feet)

DEPTH FROM LAND SURFACE FEET TO FEET		FORMATION DESCRIPTION
0	10	Sand Clay
10	300	Mica Schist.

Sketch exact location of well with distances, to at least two permanent landmarks.



If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
8/31/90	143037	251	8/3/90	

LOCAL DIRECTOR OF HEALTH

FVHD Farmington Valley Health District

95 River Road, Suite C • Canton, CT 06019 • Phone (860) 352-2333 • Fax (860) 352-2542

Avon • Barkhamsted • Canton • Colebrook • East Granby • Farmington • Granby • Hartland • New Hartford • Simsbury

REVIEW OF PLANS FOR A SEWAGE DISPOSAL SYSTEM AT:
361 Albany Turnpike, Canton

TO Canton Commercial Properties LLC

FROM Dianne Harding DATE PLAN RECEIVED 08/06/2013

ENGINEER T. Shannon DATE PLAN REVIEWED 08/06/2013

PLAN DATED 08/06/2013 REVISION DATE / /

****

DESIGN SPECIFICATIONS

No. of Bedrooms 3 Area of Special Concern? No

No. of employees/gallons per day n/a

Septic tank capacity 1500 gallons. Bedrock Depth no

Design Percolation Rate 1-10 min/inch. Fill Required? No

Type of leaching system Mantis 536-8 Groundwater at no

Size of leaching system 495 sq ft. Curtain Drain? No

MLSS Required n/a ft. MLSS Provided _____ ft.

Other _____

NOTE: An electrical permit is required for pump systems.

****

ACTION TAKEN

(X) Approval Granted

(X) Approval Granted with Conditions (see below)

COMMENTS FOR CONSTRUCTION

1. Place risers on septic tank inlet & outlet openings to within 12" of grade.
2. Protect pipe underneath driveway from damage.
3. Properly abandon old septic system.
4. DO NOT WORK ON LEACHING AREA WHILE SOIL IS WET.

COPIES: (X) ENGINEER (X) OWNER ( ) BUILDER ( ) INSTALLER ( ) BLDG. INSP.

CPR-9 Rev. 7/95

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
REAL ESTATE & PROFESSIONAL TRADES DIVISION

WELL DRILLING COMPLETION REPORT

165 Capitol Avenue, Hartford, Connecticut 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER	NAME Bee Mac Rental		ADDRESS 364 Albany Turnpike Canton, CT 06019	
LOCATION OF WELL	(No. & Street) 364 Albany Turnpike	(Town) Canton	(Lot Number)	
PROPOSED USE OF WELL	☐ DOMESTIC	☒ BUSINESS ESTABLISHMENT	☐ FARM	☐ TEST WELL
	☐ PUBLIC SUPPLY	☐ INDUSTRIAL	☐ AIR CONDITIONING	☐ OTHER (Specify)
DRILLING EQUIPMENT	☐ ROTARY	☐ COMPRESSED AIR PERCUSSION	☐ CABLE PERCUSSION	☒ OTHER (Specify) Hydro - Rotary

CASING DETAILS	LENGTH (feet)	DIAMETER (inches)	WEIGHT PER FOOT	☐ THREADED ☐ WELDED	DRIVE SHOE ☐ YES ☐ NO	WAS CASING GROUTED? ☐ YES ☐ NO
	60'	6"				

YIELD TEST	☐ BAILED	☒ PUMPED	☐ COMPRESSED AIR	HOURS 4	YIELD (GPM) 4

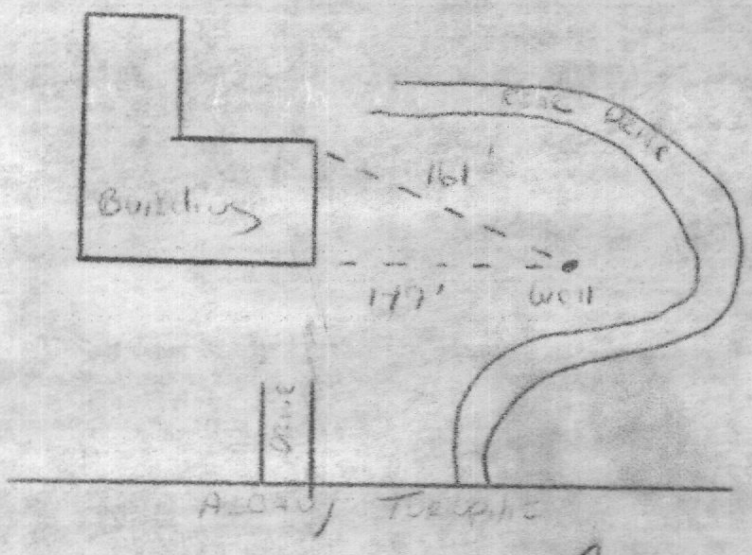
WATER LEVEL	MEASURE FROM LAND SURFACE - STATIC (Specify feet)	DURING YIELD TEST (feet)	Depth of Completed Well in feet
	35'	300'	340'

SCREEN DETAILS	MAKE —					LENGTH OPEN TO AQUIFER (feet)	
	SLOT SIZE	DIAMETER (inches)	IF GRAVEL PACKED:	Diameter of well including gravel pack (inches)	GRAVEL SIZE (inches)	FROM (feet)	TO (feet)

DEPTH FROM LAND TO SURFACE FEET TO FEET		FORMATION DESCRIPTION

RECEIVED
MAR 12 2001
FARMINGTON VALLEY HEALTH DISTRICT

Sketch exact location of well with distances, to at least two permanent landmarks



If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
3-7-01	201009	170	3-8-01	

LOCAL DIRECTOR OF HEALTH

WELL COMPLETION REPORT

CPB-9 REV. 11-87

MAR 1 1988

AVON

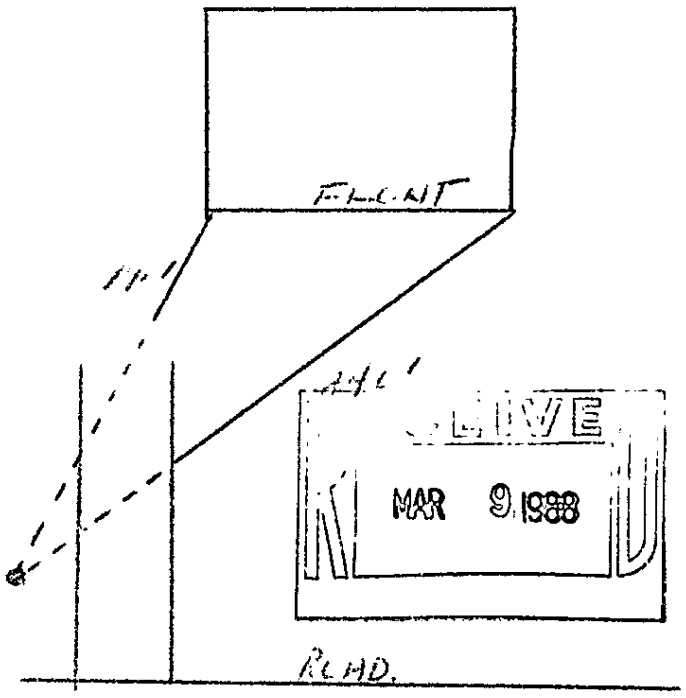
STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
WELL DRILLING BOARD
165 CAPITOL AVE.
HARTFORD, CONNECTICUT 06106

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER	NAME: Avonside (Skip Wheeler)	ADDRESS: Old Farms Rd., Avon, Conn. 06001	
LOCATION OF WELL	(No. & Street): Rte. 44 & 202	(Town): Avon	(Lot Number): 370 Albany Turnpike Canton
PROPOSED USE OF WELL	[ ] DOMESTIC [XX] BUSINESS ESTABLISHMENT [ ] FARM [ ] TEST WELL	[ ] PUBLIC SUPPLY [ ] INDUSTRIAL [ ] AIR CONDITIONING [ ] OTHER (Specify)	
DRILLING EQUIPMENT	[ ] ROTARY [XX] COMPRESSED AIR PERCUSSION [ ] CABLE PERCUSSION [ ] OTHER (Specify)		
CASING DETAILS	LENGTH (feet): 75 / DIAMETER (inches): 6 / WEIGHT PER FOOT: 19	[XX] THREADED [ ] WELDED	DRIVE SHOE [XX] YES [ ] NO / WAS CASING GROUTED? [XX] YES [ ] NO
YIELD TEST	[ ] BAILED [ ] PUMPED [XX] COMPRESSED AIR	HOURS: 1	YIELD (G.P.M.): 3
WATER LEVEL	MEASURE FROM LAND SURFACE—STATIC (Specify feet): 20	DURING YIELD TEST (feet):	Depth of Completed Well in feet below Land surface: 280
SCREEN DETAILS	MAKE:		LENGTH OPEN TO AQUIFER (feet):
	SLOT SIZE:	DIAMETER (inches):	IF GRAVEL PACKED: / Diameter of well including gravel pack (inches): / GRAVEL SIZE (inches): / FROM (feet): / TO (feet):

DEPTH FROM LAND SURFACE FEET TO FEET		FORMATION DESCRIPTION
0	15	Clay
15	75	Broken Ledge
75	280	Granite & shist mix

Sketch exact location of well with distances, to at least two permanent landmarks.



If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED	PERMIT NO.	REGISTRATION NO.	DATE OF REPORT	WELL DRILLER (Signature)
1/3/88	127566	251	1/11/88	

LOCAL DIRECTOR OF HEALTH

AVON
BARKHAMSTED
CANTON
COLEBROOK
EAST GRANBY
FARMINGTON
GRANBY
HARTLAND
NEW HARTFORD
SIMSBURY

FVHD

FARMINGTON VALLEY HEALTH DISTRICT

50 SIMSBURY ROAD, AVON, CONNECTICUT 06001 Telephone (860) 676-1953 Fax (860) 676-2131 800# 1-800-909-FVHD

APPLICATION FOR APPROVAL OF PLANS

FEE $250.00 (Non-refundable and non-transferable)

Date 12/20/05

Location of Property: Town Canton, CT

Lot#, Street Address Lot 9, 375 Albany Turnpike, Canton, CT

Owner of Property Today's Modulars

Mailing Address 6 Stony Hill Road, Bethel, CT 06801

Town Bethel Phone 203-730-4480 FAX 203-790-7401

Builder's Name Westchester Modular Homes

Mailing Address 6 Stony Hill Road, Bethel, CT 06801

Town Bethel Phone 203-730-4480

Septic System Installer's Name

Type of Building Model Home / Office Use # Bedrooms [redacted]
(single family residential, commercial, etc.) # Employees 3
Design Flow 380 gal./day

Water Supply - Public Private Well XX

Will house sewer be below basement floor? No

Will house be equipped with whirlpool or spa? Yes

Gallons Holds 30 gallons, but will not be used -- model home

Method of Disposal On-Site Septic

Garbage Disposal Yes
Footing Drains Yes

I certify that I am the owner of this property or the contractual representative of the owner. I understand that in addition to this completed application a plot plan is required with at least the following on it: demensions of lot and house, locations of house, well, sewage system, soil tests, all drains, watercourses, driveway and other information as required.

Name Philip Doyle, LADA Phone 860-651-4971 FAX 860-651-6153

SIGNATURE Address 104 West Street, Simsbury, CT 06070

PERCOLATION TEST DATA

CLARK ENGINEERING
P O Box 419
Granby, CT 06035-0419
(860) 653-4352

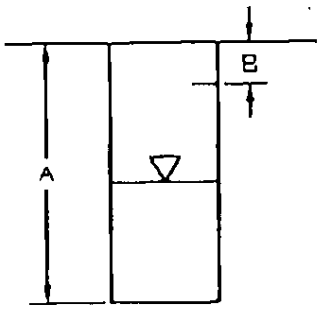
PROJECT: Westchester Modular Homes **JOB#:** 2005.022

LOCATION: 11 Daynard Drive **SHEET:** 1 **OF** 2

TOWN: Canton, CT

PT# A

DEPTH	DESCRIPTION
0-8"	Topsoil
8-24"	Yellowish brown sandy loam



A= 24" B= 4"

SOIL MOISTURE: Moist

PRE-SOAK - DATE: 11/18/05 TIME: 12:58 PM

TEST DATE: 11/18/05

TIME	MEAS. (inches)	DROP (inches)	ELAPSED TIME (minutes)	TOTAL TIME (minutes)	TOTAL DROP (inches)	PERCOLATION RATE (minutes/inch)
3:08 PM	9.50					
3:13 PM	11.00	1.50	5	5	1.50	3.33
3:18 PM	11.88	0.88	5	10	2.38	5.68
3:28 PM	13.13	1.25	10	20	3.63	8.00
3:38 PM	14.25	1.12	10	30	4.75	8.93
3:48 PM	15.25	1.00	10	40	5.75	10.00
3:58 PM	16.13	0.88	10	50	6.63	11.36

STABILIZED RATE 11 min./in

COMMENTS:

PERCOLATION TEST DATA

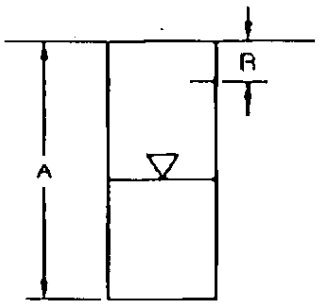
CLARK ENGINEERING
P O Box 419
Granby, CT 06035-0419
(860) 653-4352

PROJECT: Westchester Modular Homes **JOB#:** 2005.022

LOCATION: 11 Daynard Drive **SHEET:** 2 **OF** 2

TOWN: Canton, CT

PT# B



DEPTH	DESCRIPTION
0-8"	Topsoil
8-28"	Yellowish brown sandy loam
28-36"	Gray brown loam

A= 36" B= 6"

SOIL MOISTURE Moist

PRE-SOAK - DATE: 11/18/05 TIME: 12:54 PM

TEST DATE 11/18/05

TIME	MEAS (inches)	DROP (inches)	ELAPSED TIME (minutes)	TOTAL TIME (minutes)	TOTAL DROP (inches)	PERCOLATION RATE (minutes/inch)
3:01 PM	17.75					
3:06 PM	18.75	1.00	5	5	1.00	5.00
3:11 PM	19.50	0 75	5	10	1.75	6.67
3 21 PM	20.63	1.13	10	20	2.88	8.85
3:31 PM	21.50	0.87	10	30	3.75	11.49
3:41 PM	22 38	0.88	10	40	4.63	11 36
3:51 PM	23.00	0 62	10	50	5 25	16.13
4:01 PM	23.63	0.63	10	60	5.88	15.87

STABILIZED RATE. 16 min./in

COMMENTS:

APPENDIX C
USDA NRCS WEB SOIL SURVEY REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut

July 17, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 15, Sep 28, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 28, 2011—Apr 18, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

State of Connecticut (CT600)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	17.8	7.4%
13	Walpole sandy loam, 0 to 3 percent slopes	0.1	0.0%
23A	Sudbury sandy loam, 0 to 5 percent slopes	0.1	0.1%
51B	Sutton fine sandy loam, 2 to 8 percent slopes, very stony	25.9	10.7%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	2.6	1.1%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	4.2	1.8%
60D	Canton and Charlton soils, 15 to 25 percent slopes	0.2	0.1%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	34.6	14.4%
61C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony	3.1	1.3%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	75.3	31.3%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	21.8	9.1%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	5.4	2.2%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	11.6	4.8%
108	Saco silt loam	5.4	2.3%
109	Fluvaquents-Udifluvents complex, frequently flooded	1.9	0.8%
306	Udorthents-Urban land complex	29.8	12.4%
308	Udorthents, smoothed	0.7	0.3%
Totals for Area of Interest		**240.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas

shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

3—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2t2qt
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 40 percent
Leicester, extremely stony, and similar soils: 35 percent
Whitman, extremely stony, and similar soils: 17 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Depressions, drumlins, ground moraines, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: fine sandy loam
Bw - 6 to 10 inches: sandy loam
Bg - 10 to 19 inches: gravelly sandy loam
Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: Yes

Description of Leicester, Extremely Stony

Setting

Landform: Depressions, ground moraines, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Parent material: Coarse-loamy supraglacial or subglacial till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 7 inches: fine sandy loam
Bg - 7 to 18 inches: fine sandy loam
BC - 18 to 24 inches: fine sandy loam
C1 - 24 to 39 inches: gravelly fine sandy loam
C2 - 39 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Description of Whitman, Extremely Stony

Setting

Landform: Depressions, drumlins, ground moraines, drainageways, hills
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 1 inches: peat

A - 1 to 10 inches: fine sandy loam
Bg - 10 to 17 inches: gravelly fine sandy loam
Cdg - 17 to 61 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 7 to 38 inches to densic material
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Woodbridge, extremely stony

Percent of map unit: 6 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Footslope, summit, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Swansea

Percent of map unit: 2 percent
Landform: Bogs, swamps
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

13—Walpole sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svkl
Elevation: 0 to 1,020 feet

Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Walpole and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Walpole

Setting

Landform: Deltas, depressions, depressions, outwash plains, outwash terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy glaciofluvial deposits derived from igneous, metamorphic and sedimentary rock

Typical profile

Oe - 0 to 1 inches: mucky peat
A - 1 to 7 inches: sandy loam
Bg - 7 to 21 inches: sandy loam
BC - 21 to 25 inches: gravelly sandy loam
C - 25 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 4 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Sudbury

Percent of map unit: 10 percent
Landform: Deltas, outwash plains, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear

Hydric soil rating: No

Scarboro

Percent of map unit: 10 percent
Landform: Deltas, outwash plains, outwash terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

23A—Sudbury sandy loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 9lkv
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sudbury and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sudbury

Setting

Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 5 inches: sandy loam
Bw1 - 5 to 17 inches: gravelly sandy loam
Bw2 - 17 to 25 inches: sandy loam
2C - 25 to 60 inches: stratified gravel to sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None

Frequency of ponding: None
Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Ninigret

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Agawam

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Tisbury

Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Walpole

Percent of map unit: 2 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

51B—Sutton fine sandy loam, 2 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 9lp4
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches

Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Sutton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton

Setting

Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 6 inches: fine sandy loam
Bw1 - 6 to 12 inches: fine sandy loam
Bw2 - 12 to 24 inches: fine sandy loam
Bw3 - 24 to 28 inches: fine sandy loam
C1 - 28 to 36 inches: gravelly fine sandy loam
C2 - 36 to 65 inches: gravelly sandy loam

Properties and qualities

Slope: 2 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Canton

Percent of map unit: 4 percent
Landform: Hills

Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Paxton

Percent of map unit: 3 percent
Landform: Drumlins, hills, till plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester

Percent of map unit: 3 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Woodbridge

Percent of map unit: 2 percent
Landform: Drumlins, hills
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Rainbow

Percent of map unit: 2 percent
Landform: Drumlins, hills
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Narragansett

Percent of map unit: 1 percent
Landform: Hills, till plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

52C—Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 9lp5
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Sutton and similar soils: 80 percent

Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton

Setting

Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 6 inches: fine sandy loam
Bw1 - 6 to 12 inches: fine sandy loam
Bw2 - 12 to 24 inches: fine sandy loam
Bw3 - 24 to 28 inches: fine sandy loam
C1 - 28 to 36 inches: gravelly fine sandy loam
C2 - 36 to 65 inches: gravelly sandy loam

Properties and qualities

Slope: 2 to 15 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Canton

Percent of map unit: 4 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Paxton

Percent of map unit: 3 percent
Landform: Drumlins, hills, till plains

Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester

Percent of map unit: 3 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Woodbridge

Percent of map unit: 2 percent
Landform: Drumlins, hills
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Rainbow

Percent of map unit: 2 percent
Landform: Drumlins, hills
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Narragansett

Percent of map unit: 1 percent
Landform: Hills, till plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

60B—Canton and Charlton fine sandy loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w81s
Elevation: 0 to 1,460 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Canton and similar soils: 50 percent
Charlton and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Ridges, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, nose slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: gravelly fine sandy loam
2C - 26 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Charlton

Setting

Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw - 7 to 22 inches: gravelly fine sandy loam
C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sutton
Percent of map unit: 5 percent
Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester
Percent of map unit: 5 percent
Landform: Depressions, ground moraines, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Chatfield
Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

60D—Canton and Charlton soils, 15 to 25 percent slopes

Map Unit Setting
National map unit symbol: 9lpq
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches

Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton and similar soils: 45 percent
Charlton and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy and gravelly melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: gravelly fine sandy loam
Bw1 - 3 to 15 inches: gravelly loam
Bw2 - 15 to 24 inches: gravelly loam
Bw3 - 24 to 30 inches: gravelly loam
2C - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam

Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Chatfield

Percent of map unit: 5 percent
Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Hollis

Percent of map unit: 5 percent
Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

61B—Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w81v
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, very stony, and similar soils: 50 percent
Charlton, very stony, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Very Stony

Setting

Landform: Ridges, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Charlton, Very Stony

Setting

Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sutton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear

Hydric soil rating: No

Leicester, very stony

Percent of map unit: 5 percent
Landform: Depressions, ground moraines, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Chatfield, very stony

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

61C—Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w820
Elevation: 0 to 1,540 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, very stony, and similar soils: 50 percent
Charlton, very stony, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Very Stony

Setting

Landform: Ridges, hills, moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Charlton, Very Stony

Setting

Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sutton, very stony
Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester, very stony
Percent of map unit: 5 percent
Landform: Depressions, ground moraines, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Chatfield, very stony
Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

73C—Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky

Map Unit Setting
National map unit symbol: 2w698
Elevation: 0 to 1,550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton, very stony, and similar soils: 50 percent
Chatfield, very stony, and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Chatfield, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
Bw - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Leicester, very stony

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Hollis, very stony

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Sutton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

73E—Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 9lql
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 45 percent
Chatfield and similar soils: 30 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam
Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 45 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Hydric soil rating: No

Description of Chatfield

Setting

Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 10 percent
Hydric soil rating: No

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Hollis
Percent of map unit: 3 percent
Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed, red parent material
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, sandy subsoil
Percent of map unit: 1 percent
Hydric soil rating: No

75C—Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes

Map Unit Setting
National map unit symbol: 9lqn
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Hollis and similar soils: 35 percent
Chatfield and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting
Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile
Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 9 inches: channery fine sandy loam
Bw2 - 9 to 15 inches: gravelly fine sandy loam
2R - 15 to 80 inches: bedrock

Properties and qualities
Slope: 3 to 15 percent

Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Chatfield

Setting

Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Rock Outcrop

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Charlton

Percent of map unit: 7 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Brimfield

Percent of map unit: 1 percent
Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed, sandy subsoil

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, red parent material

Percent of map unit: 1 percent
Hydric soil rating: No

75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: 9lqp

Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 35 percent
Chatfield and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 9 inches: channery fine sandy loam
Bw2 - 9 to 15 inches: gravelly fine sandy loam
2R - 15 to 80 inches: bedrock

Properties and qualities

Slope: 15 to 45 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Chatfield

Setting

Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Rock Outcrop

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Charlton

Percent of map unit: 7 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent

Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Brimfield

Percent of map unit: 1 percent
Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed, red parent material

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, sandy subsoil

Percent of map unit: 1 percent
Hydric soil rating: No

108—Saco silt loam

Map Unit Setting

National map unit symbol: 9ljv
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Saco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saco

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty alluvium

Typical profile

A - 0 to 12 inches: silt loam
Cg1 - 12 to 32 inches: silt loam
Cg2 - 32 to 48 inches: silt loam
2Cg3 - 48 to 60 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Lim

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Winooski

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rippowam

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Bash

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Hadley

Percent of map unit: 2 percent

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

109—Fluvaquents-Udifluvents complex, frequently flooded

Map Unit Setting

National map unit symbol: 9ljw
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents, frequently flooded, and similar soils: 50 percent
Udifluvents, frequently flooded, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium

Typical profile

A - 0 to 4 inches: silt loam
Cg1 - 4 to 14 inches: fine sand
Cg2 - 14 to 21 inches: very fine sand
Ab1 - 21 to 38 inches: silt loam
Ab2 - 38 to 45 inches: fine sandy loam
C'g3 - 45 to 55 inches: sand
A'b3 - 55 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Description of Udifluvents, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 2 inches: fine sandy loam
C - 2 to 4 inches: loamy fine sand
Ap - 4 to 12 inches: fine sandy loam
AC - 12 to 18 inches: fine sandy loam
C1 - 18 to 35 inches: loamy sand
C2 - 35 to 38 inches: very gravelly loamy sand
C3 - 38 to 60 inches: very gravelly coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.57 to 35.99 in/hr)
Depth to water table: About 72 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Riverwash

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Saco

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rippowam

Percent of map unit: 3 percent

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Pootatuck

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Occum

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

306—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lmg
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 54 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Urban Land

Typical profile
H - 0 to 6 inches: material

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils
Percent of map unit: 8 percent
Hydric soil rating: No

Udorthents, wet substratum
Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop
Percent of map unit: 2 percent
Hydric soil rating: No

308—Udorthents, smoothed

Map Unit Setting
National map unit symbol: 9lmj
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 24 to 54 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Udorthents, wet substratum

Percent of map unit: 7 percent
Hydric soil rating: No

Unnamed, undisturbed soils

Percent of map unit: 7 percent
Hydric soil rating: No

Urban land

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Hydric soil rating: No

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APPENDIX D

CT DEEP NATURAL DIVERSITY DATABASE MAP

Natural Diversity Data Base Areas

CANTON, CT

June 2017

State and Federal Listed Species & Significant Natural Communities

Town Boundary

NOTE: This map shows general locations of State and Federal Listed Species and Significant Natural Communities. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a number of data sources . Exact locations of species have been buffered to produce the general locations. Exact locations of species and communities occur somewhere in the shaded areas, not necessarily in the center. A new mapping format is being employed that more accurately models important riparian and aquatic areas and eliminates the need for the upstream/downstream searches required in previous versions.

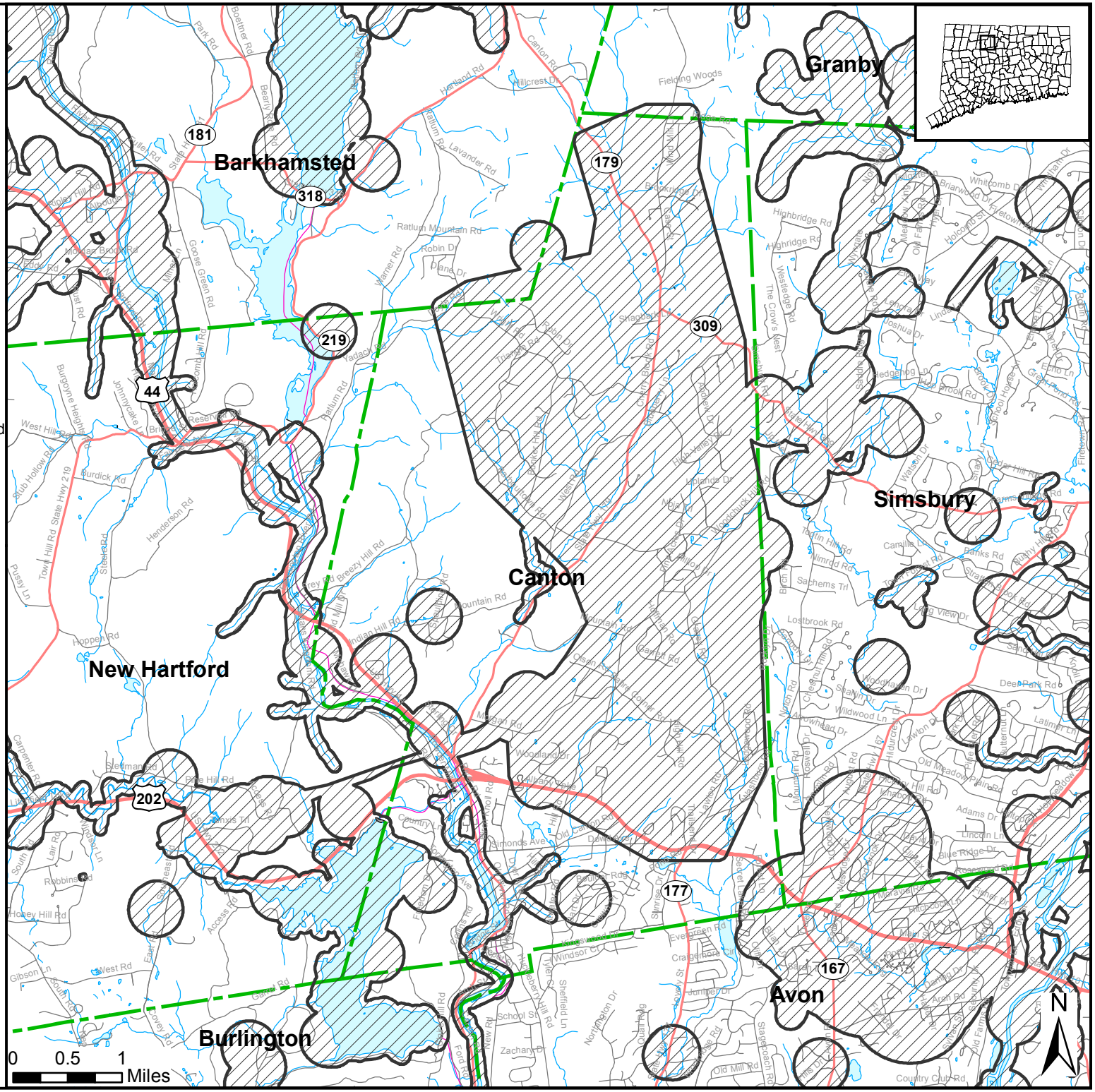
This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a shaded area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

www.ct.gov/deep/nddbrequest

Use the CTECO Interactive Map Viewers at www.cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St., Hartford CT 06106
Phone (860) 424-3011

Connecticut Department of Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division



APPENDIX E
OPINION OF PROBABLE COST

TOWN OF CANTON
ROUTE 44 UTILITY EXPANSION STUDY

FEASIBILITY STUDY

OPINION OF PROBABLE CONSTRUCTION COST - FULL EXPANSION

Project:	Route 44 Utility Expansion Study	Computed By:	MRS
Project #:	83668.01	Checked By:	WGW
Project #:		Date:	11/28/17
Location:	Route 44 Corridor	Revised:	12/05/17
Location:	Canton, CT	Revised:	

A. MAJOR ITEMS

Item Description	Units	Quantity	Unit Price	Cost	Source
Division 2 - Existing Conditions					
SITE DEMOLITION - SAWCUT BITUMINOUS CONCRETE PAVEMENT	l.f.	65,600	$2.10	$137,760.00	Previous BSC Project
Division 32 - Exterior Improvements					
MILLING OF HOT MIX ASPHALT (HMA) - (0-4 INCHES)	s.y.	51,536	$7.50	$386,520.00	Previous BSC Project
HMA S0.5	ton	7,674	$160.00	$1,227,840.00	Previous BSC Project
HMA S1	ton	3,521	$200.00	$704,200.00	Previous BSC Project
Division 33 - Utilities					
SANITARY SEWER - 18 INCH PVC (SDR 35) PIPE IN TRENCH	l.f.	4,800	$275.00	$1,320,000.00	Canton WPCA (approximate)
WATER SUPPLY SYSTEM - 12 INCH DUCTILE IRON PIPE IN TRENCH	l.f.	14,200	$300.00	$4,260,000.00	CT Water (approximate)
NATURAL GAS MAIN IN TRENCH	l.f.	13,800	$100.00	$1,380,000.00	estimated
			MAJOR ITEMS COST:	**$9,416,320.00**	

B. LUMP SUM ITEMS (% OF "MAJOR ITEMS" AS INDICATED)

Item Description	Units	Quantity	Percentage	Cost	
MAINTENANCE AND PROTECTION OF TRAFFIC	l.s.	1	5%	$470,816.00	From 2015 ConnDOT Cost Estimating Guidelines
MOBILIZATION AND PROJECT CLOSEOUT	l.s.	1	6.5%	$612,060.80	From 2015 ConnDOT Cost Estimating Guidelines
CONSTRUCTION STAKING	l.s.	1	1.0%	$94,163.20	From 2015 ConnDOT Cost Estimating Guidelines
			LUMP SUM ITEMS COST:	**$1,177,040.00**	

SUBTOTAL A+B: **$10,593,360.00**

D. CONTINGENCY (8% OF SUBTOTAL A+B+C) **$847,468.80**

TOTAL PROJECT COST: **$11,440,828.80**

SAY: **$11,441,000**

Legend

s.y. = Square Yard ea. = Each
c.y. = Cubic Yard l.f. = Linear Foot
s.f. = Square Foot l.s. = Lump Sum

TOWN OF CANTON
ROUTE 44 UTILITY EXPANSION STUDY

FEASIBILITY STUDY

OPINION OF PROBABLE CONSTRUCTION COST - MAXIMIZED EFFICIENCY

Project:	Route 44 Utility Expansion Study	Computed By:	MRS
Project #:	83668.01	Checked By:	WGW
Project #:		Date:	11/28/17
Location:	Route 44 Corridor	Revised:	12/05/17
Location:	Canton, CT	Revised:	

A. MAJOR ITEMS

Item Description	Units	Quantity	Unit Price	Cost	Source
Division 2 - Existing Conditions					
SITE DEMOLITION - SAWCUT BITUMINOUS CONCRETE PAVEMENT	l.f.	19,600	$2.10	$41,160.00	Previous BSC Project
Division 32 - Exterior Improvements					
MILLING OF HOT MIX ASPHALT (HMA) - (0-4 INCHES)	s.y.	15,483	$7.50	$116,122.50	Previous BSC Project
HMA S0.5	ton	2,294	$160.00	$367,040.00	Previous BSC Project
HMA S1	ton	1,103	$200.00	$220,600.00	Previous BSC Project
Division 33 - Utilities					
SANITARY SEWER - 18 INCH PVC (SDR 35) PIPE IN TRENCH	l.f.	4,800	$275.00	$1,320,000.00	Canton WPCA (approximate)
WATER SUPPLY SYSTEM - CROSS MDC RAW WATER MAIN	ea.	1	$300,000.00	$300,000.00	
WATER SUPPLY SYSTEM - 12 INCH DUCTILE IRON PIPE IN TRENCH	l.f.	5,000	$300.00	$1,500,000.00	CT Water (approximate)
			MAJOR ITEMS COST:	**$3,864,922.50**	

B. LUMP SUM ITEMS (% OF "MAJOR ITEMS" AS INDICATED)

Item Description	Units	Quantity	Percentage	Cost	
MAINTENANCE AND PROTECTION OF TRAFFIC	l.s.	1	5%	$193,246.13	From 2015 ConnDOT Cost Estimating Guidelines
MOBILIZATION AND PROJECT CLOSEOUT	l.s.	1	6.5%	$251,219.96	From 2015 ConnDOT Cost Estimating Guidelines
CONSTRUCTION STAKING	l.s.	1	1.0%	$38,649.23	From 2015 ConnDOT Cost Estimating Guidelines
			LUMP SUM ITEMS COST:	**$483,115.31**	

SUBTOTAL A+B: **$4,348,037.81**

D. CONTINGENCY (8% OF SUBTOTAL A+B+C) **$347,843.03**

TOTAL PROJECT COST: **$4,695,880.84**

SAY: **$4,696,000**

Legend

s.y. = Square Yard ea. = Each
c.y. = Cubic Yard l.f. = Linear Foot
s.f. = Square Foot l.s. = Lump Sum

APPENDIX F
FULL SITE ANALYSIS MATRIX

BSC Lot Number	Address	Size (ac)	Zone	Developed (Y/N)	Utilities Available (S, W, G)	Current Assessed Value	Tax Revenue (29.76 mill rate)	Current Building Area (sf)	Tax Revenue/Bldg Area ($/sf)	Max. Allowable Footprint Per Zoning (sf)	Max. Footprint Adjusted for Topography Limitations	Max. Footprint Adjusted for Floodplain Limitations	Max. Footprint Adjusted for Wetlands Limitations	Max. Footprint Adjusted for NDDB Limitations	Max. Footprint Adjusted for Form-Based Relaxed Regulations	Practical Footprint (Adjustment to Not Assume Maximum Build)	Potential Maximized Floor Area (sf) [Conceptual Site Plans]	Max. Allowable Floor Area Per Septic (sf)	Max. Buildable Area Per Well (sf)	Well Yield (GPM)	Conceptual Additional Floor Area w/ Public Utilities (sf)	Tax Revenue Increase (29.76 mill rate)
1	104 Dyer Avenue	1.60	SB	N	SG	$112,000	$3,333	0		17,424	14,810	14,810	14,810	14,810	17,032	15,329	21,000		10,000		11,000	$49,170
2	401 Albany Turnpike	1.49	SB	N	S	$33,250	$990	0		16,226	13,792	13,792	13,792	13,792	15,861	14,275	19,200		10,000		9,200	$41,124
4	375 Albany Turnpike	0.88	SB	N	None	$92,400	$2,750	0		9,583	9,583	9,583	9,583	9,583	11,021	9,919	5,500	5,775	10,000		0	$0
5	370 Albany Turnpike	4.78	SB	Y	None	$526,260	$15,661	5,760	$2.72	52,054	52,054	52,054	36,438	36,438	41,904	37,713	50,000	9,844	10,000	3	27,869	$124,576
7	364 Albany Turnpike	2.77	SB	Y	None	$557,720	$16,598	6,880	$2.41	30,165	30,165	30,165	27,149	27,149	31,221	28,099	25,000	10,654	10,000		15,000	$67,050
8	361 Albany Turnpike	7.28	SB	Y	None	$185,600	$5,523	1,575	$3.51	65,000	48,750	48,750	48,750	48,750	56,063	50,456	65,000	61,688	10,000		40,456	$180,839
9	352 Albany Turnpike	1.69	SB	Y	S	$652,650	$19,423	2,036	$9.54	18,404	18,404	18,404	18,404	18,404	21,165	19,048			10,000		9,048	$40,446
10	345 Albany Turnpike	3.08	SB	Y	None	$371,530	$11,057	4,824	$2.29	33,541	28,510	28,510	28,510	28,510	32,787	29,508	36,000	29,167	10,000	8	19,508	$87,200
12	8 Silver Mine Acres Road	0.81	B	Y	None	$166,260	$4,948	1,344	$3.68	5,293	5,293	5,293	5,293	5,293	6,086	5,478			10,000		0	$0
14	6 Silver Mine Acres Road	0.75	B	Y	None	$178,500	$5,312	1,420	$3.74	4,901	4,901	4,901	4,901	4,901	5,636	5,072			10,000		0	$0
16	4 Silver Mine Acres Road	0.77	B	Y	None	$195,520	$5,819	1,718	$3.39	5,031	4,277	4,277	4,277	4,277	4,918	4,426			10,000		0	$0
17	320 Albany Turnpike	0.73	SB	Y	None	$238,810	$7,107	1,630	$4.36	7,950	7,950	7,950	7,950	7,950	9,142	8,228	7,200	14,625	10,000		0	$0
18	2 Silver Mine Acres Road	0.74	B	Y	None	$195,620	$5,822	1,742	$3.34	4,835	4,110	4,110	4,110	4,110	4,726	4,254			10,000		0	$0
19	316 Albany Turnpike	0.48	SB	N	None	$50,400	$1,500	0		5,227	5,227	4,704	4,704	4,704	5,410	4,869			10,000		0	$0
20	59 East Hill Road	0.65	SB	Y	None	$313,680	$9,335	1,989	$4.69	7,079	7,079	7,079	7,079	7,079	8,140	7,326	5,400	13,500	10,000		0	$0
21	312 Albany Turnpike	1.20	SB	Y	S	$248,230	$7,387	3,416	$2.16	13,068	13,068	11,761	10,585	10,585	12,173	10,956			10,000		956	$4,271
23	310 Albany Turnpike	5.00	SB	Y	S	$337,240	$10,036	28,080	$0.36	54,450	54,450	54,450	38,115	38,115	43,832	39,449			28,080		11,369	$50,820
24	321 Albany Turnpike	1.61	SB	Y	None	$257,350	$7,659	4,128	$1.86	17,533	17,533	17,533	17,533	17,533	20,163	18,147	18,000	9,750	10,000		8,147	$36,415
25	306 Albany Turnpike	0.65	SB	Y	S	$665,810	$19,815	975	$20.32	7,079	7,079	7,079	7,079	7,079	8,140	7,326			10,000		0	$0
26	315 Albany Turnpike	1.03	SB	Y	None	$540,000	$16,070	6,100	$2.63	11,217	11,217	10,095	10,095	10,095	11,609	10,448	12,600	5,906	10,000		6,500	$29,055
27	298 Albany Turnpike	1.20	SB	Y	S	$486,560	$14,480	4,200	$3.45	13,068	13,068	13,068	13,068	13,068	15,028	13,525			10,000		3,525	$15,758
28	309 Albany Turnpike	0.66	SB	Y	S	$265,730	$7,908	400	$19.77	7,187	7,187	6,469	6,469	6,469	7,439	6,695			10,000		0	$0
29	296 Albany Turnpike	0.93	SB	Y	S	$395,330	$11,765	4,375	$2.69	10,128	10,128	10,128	10,128	10,128	11,647	10,482			10,000		482	$2,155
30	305 Albany Turnpike	0.85	SB	Y	S	$244,790	$7,285	2,322	$3.14	9,257	9,257	9,257	6,480	6,480	7,451	6,706			10,000		0	$0
31	290 Albany Turnpike	1.36	SB	Y	S	$579,570	$17,248	5,500	$3.14	14,810	13,329	13,329	11,996	11,996	13,796	12,416			10,000		2416	$10,801
32	301 Albany Turnpike	0.83	SB	Y	S	$154,600	$4,601	1,182	$3.89	9,039	9,039	9,039	9,039	9,039	10,395	9,355			10,000		0	$0
33	288 Albany Turnpike	0.73	SB	Y	S	$139,450	$4,150	953	$4.35	7,950	7,950	7,950	7,155	7,155	8,228	7,405			10,000		0	$0
34	299 Albany Turnpike	1.00	SB	Y	S	$172,380	$5,130	1,788	$2.87	10,890	10,890	10,890	10,890	10,890	12,524	11,271			10,000		1271	$5,682
35	286 Albany Turnpike	1.78	SB	Y	S	$162,630	$4,840	914	$5.30	19,384	19,384	19,384	13,569	13,569	15,604	14,044			10,000		4044	$18,076
36	295 Albany Turnpike	7.00	SB	Y	S	$152,600	$4,541	N/A		65,000	65,000	65,000	65,000	65,000	74,750	67,275			10,000		57275	$256,019
37	282 Albany Turnpike	0.71	SB	Y	S	$230,480	$6,859	1,268	$5.41	7,732	7,732	7,732	5,412	5,412	6,224	5,602			10,000		0	$0
38	291 Albany Turnpike	1.06	SB	Y	S	$525,020	$15,625	7,120	$2.19	11,543	11,543	11,543	11,543	11,543	13,275	11,947			10,000		1947	$8,705
39	280 Albany Turnpike	1.30	SB	Y	S	$217,810	$6,482	1,968	$3.29	14,157	14,157	14,157	7,079	7,079	8,140	7,326			10,000		0	$0
40	285 Albany Turnpike	3.28	SB	Y	S	$182,540	$5,432	2,283	$2.38	35,719	35,719	35,719	35,719	35,719	41,077	36,969			10,000		26969	$120,553
41	272 Albany Turnpike	0.84	SB	Y	S	$394,380	$11,737	2,382	$4.93	9,148	9,148	9,148	9,148	9,148	10,520	9,468			10,000		0	$0
42	277 Albany Turnpike	2.25	SB	Y	S	$1,890,000	$56,246	10,424	$5.40	24,503	24,503	24,503	17,152	17,152	19,725	17,752			10,424	1.25	7328	$32,756
43	250 Albany Turnpike	14.52	SB	Y	SW	$1,971,020	$58,658	23,048	$2.55	65,000	65,000	58,500	29,250	29,250	33,638	30,274						$0
44	271 Albany Turnpike	1.40	SB	Y	S	$152,640	$4,543	1,495	$3.04	15,246	15,246	15,246	15,246	15,246	17,533	15,780			10,000		5780	$25,835
47	244 Albany Turnpike	0.88	SB	Y	SW	$292,380	$8,701	3,099	$2.81	9,583	9,583	9,583	9,583	9,583	11,021	9,919				30		$0
51	232 Albany Turnpike	0.68	B1	Y	S	$457,680	$13,621	1,000	$13.62	7,405	7,405	7,405	7,405	7,405	8,516	7,664			10,000	20	0	$0
53	228 Albany Turnpike	1.09	B1	Y	S	$316,880	$9,430	1,452	$6.49	11,870	11,870	11,870	11,870	11,870	13,651	12,286			10,000		2286	$10,216
54	253 Albany Turnpike	0.64	SB	Y	SW	$117,580	$3,499	336	$10.41	6,970	6,970	6,970	6,970	6,970	8,015	7,214						$0
57	220 Albany Turnpike	2.65	B1	Y	None	$1,540,980	$45,860	22,014	$2.08	28,859	28,859	28,859	28,859	28,859	33,187	29,869			22,014		7855	$35,110
58	247 Albany Turnpike	0.68	SB	Y	SW	$314,990	$9,374	3,261	$2.87	7,405	7,405	7,405	7,405	7,405	8,516	7,664						$0
59	220 Albany Turnpike	0.56	SB	Y	S	$588,000	$17,499	2,800	$6.25	6,098	6,098	6,098	6,098	6,098	7,013	6,312			10,000		0	$0
61	210 Albany Turnpike	1.59	B1	Y	S	$508,270	$15,126	2,136	$7.08	17,315	17,315	15,584	15,584	15,584	17,921	16,129			10,000		6129	$27,397
62	241 Albany Turnpike	0.98	SB	Y	SW	$207,520	$6,176	1,329	$4.65	10,672	10,672	10,672	10,672	10,672	12,273	11,046						$0
63	200 Albany Turnpike	0.55	B1	Y	SG	$331,820	$9,875	4,500	$2.19	5,990	5,990	5,391	5,391	5,391	6,199	5,579			10,000	8	0	$0
68	225 Albany Turnpike	1.23	B1	Y	S	$560,470	$16,680	3,958	$4.21	13,395	13,395	13,395	13,395	13,395	15,404	13,864			10,000	16	3864	$17,270
70	215 Albany Turnpike	1.41	B1	Y	S	$448,880	$13,359	5,650	$2.36	15,355	15,355	15,355	15,355	15,355	17,658	15,892			10,000		5892	$26,339
71	188 Albany Turnpike	0.81	B1	Y	SG	$693,650	$20,643	4,347	$4.75	8,821	8,821	8,821	8,821	8,821	10,144	9,130			10,000		0	$0
74	211 Albany Turnpike	4.30	B1	Y	S	$512,590	$15,255	6,680	$2.28	46,827	46,827	42,144	29,501	29,501	33,926	30,534			10,000		20534	$91,785
76	207 Albany Turnpike	0.61	B1	Y	S	$194,100	$5,776	1,988	$2.91	6,643	6,643	5,979	5,979	5,979	6,875	6,188			10,000		0	$0
82	195 Albany Turnpike	1.08	B1	Y	S	$686,680	$20,436	3,016	$6.78	11,761	11,761	11,761	11,761	11,761	13,525	12,173			10,000		2173	$9,713
84	191 Albany Turnpike	0.77	B1	Y	S	$617,790	$18,385	17,100	$1.08	8,385	8,385	8,385	8,385	8,385	9,643	8,679			17,100		0	$0
90	175 Albany Turnpike	2.01	B1	Y	SG	$324,600	$9,660	1,916	$5.04	21,889	21,889	21,889	21,889	21,889	25,172	22,655			10,000	30	12655	$56,568
92	171-173 Albany Turnpike	0.89	B	Y	SG	$312,790	$9,309	3,760	$2.48	9,692	9,692	9,692	9,692	9,692	11,146	10,031			10,000		31	$0
94	163 Albany Turnpike	1.46	B	Y	SG	$535,950	$15,950	8,565	$1.86	15,899	15,899	15,899	15,899	15,899	18,284	16,456			10,000		6456	$28,858
96	161 Albany Turnpike	0.73	B	Y	SG	$252,660	$7,519	2,886	$2.61	7,950	7,950	7,950	7,950	7,950	9,142	8,228			10,000		0	$0
98	155 Albany Turnpike	0.73	B	Y	SG	$262,800	$7,821	2,112	$3.70	7,950	6,360	6,360	6,360	6,360	7,314	6,582			10,000		0	$0
100	153 Albany Turnpike	0.58	B	Y	SG	$226,970	$6,755	3,842	$1.76	6,316	4,737	4,737	4,737	4,737	5,448	4,903			10,000		0	$0
																					337,965	$1,510,562